COLOR KEY TO
NORTH AMERICAN BIRDS

With Bibliographical Appendix

BY

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"Bird-Life," Etc.

With Upward of 800 Drawings

BY

CHESTER A. REED, B. S.

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PREFACE.

TO LEARN to call a bird by its right name is the first step in the study of ornithology. We may propose to investigate the structure, food, and habits of the birds of the world, or desire merely a superficial knowledge of the species found in our garden, but in either case we are at once confronted by this question of identification.

From the scientific point of view there is but one satisfactory way to identify a bird. A specimen of it should be in hand in order that its form, color, and size may be accurately determined, when, with the aid of analytical keys, with which most text-books are provided, it is a simple matter to ascertain the bird's name.

Wide experience has shown the writer, however, that where one dead bird is identified, hundreds of attempts are made to name the living bird in nature. This is to be expected. It is the natural outcome of the recent remarkable interest in the study of birds which, fostered by Audubon Societies and nature study teachers, has assumed an ethical and educational importance of the first magnitude.

We cannot place a gun in the hands of these thousands of bird-lovers whom we are yearly developing; indeed most of them would refuse to use it. Specimens, therefore, are rarely available to them and we should make some special effort to meet their peculiar wants. The present volume has been prepared with this end in view. Identification of the bird in the bush is its sole end; an end, however, which we trust will prove but the beginning of a new and potent interest in nature.

FRANK M. CHAPMAN

American Museum of Natural History,
New York City, 1903.

PREFACE TO REVISED EDITION.

In the present edition of the Color Key the body of the book, aside from the correction of typographical errors, remains as it was in the preceding edition. The Systematic Table has been reset and brought up to July, 1912, the date of the publication of the latest supplement to the third edition of the American Ornithologists' Union's 'Check-List of North American Birds.' Two Appendixes are added. The first includes all the changes in nomenclature and descriptions of new birds which have been accepted by the A. O. U. Committee on Classification and Nomenclature since the publication of the Color Key in 1903; the second contains a list of faunal ornithological papers which it is hoped will add greatly to the reference value of the book.

American Museum of Natural History, F.M.C.

New York City, October, 1912.

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ILLUSTRATIONS

The illustrations in this volume are designed to aid the student in identifying birds in their haunts by giving, in color, those markings which most quickly catch the eye. They do not pretend to be perfect reproductions of every shade and tint of the plumage of the species they figure, but aim to present a bird's characteristic colors as they appear when seen at a distance. It was impracticable to draw all the birds to the same scale but all those on the same page are so figured. Reference should always be made, however, to the measurements given at the beginning at each description. The figures are based on the male bird.

LIST OF ABBREVIATIONS.

♂. The sign of Mars, signifying male.

♀. The sign of Venus, signifying female.

Ad. Adult, a bird in fully mature plumage.

Yng. Young, a fully grown bird which has not yet acquired the plumage of the adult.

L. Length, the distance from the tip of the bill to the end of the tail. This measurement is made from dead birds, birds in life appear somewhat shorter.

W. Wing, the distance from the 'bend' of the wing to the end of the longest feather.

T. Tail, the distance from the insertion of the tail-feathers to the end of the longest one.

Tar. Tarsus, the distance from the heel to the insertion of the toes, or of the so-called 'leg.'

B. Bill, the distance from the feathers at the base of the bill above to its tip.

NOTE. All measurements are in inches and tenths, and a variation of about ten per cent. from the figures given may be expected. The number before the name of each species is that of the American Ornithologists' Union's 'Check-List of North American Birds.'

INTRODUCTION

HOW TO LEARN A BIRD'S NAME

"How can I learn to know the birds?" is the first question of the seeker after bird-lore. The scientist's reply, "By shooting them and studying their structure and markings in detail," may do for the few who, like himself, desire to know the birds scientifically; but it is emphatically not the answer to give the ninety and nine who, while they desire to secure an intimate, accurate knowledge of birds, will not gain it at the sacrifice of bird-life.

In the present volume, therefore, an attempt has been made so to group, figure, and describe our birds that any species may be named which has been *definitely seen*. The birds are kept in their systematic Orders, a natural arrangement, readily comprehended, but, further than this, accepted classifications have been abandoned and the birds have been grouped according to color and markings.

A key to the Orders gives the more prominent characters on which they are based; telling for example, the external differences between a Duck and a Grebe. In comparatively few instances, however, will the beginner have much difficulty in deciding to what Order a bird belongs. Probably eight times, out of ten the unknown bird will belong to the Order PASSERES, or Perching Birds, when one has only to select the color section in which it should be placed, choose from among the colored figures the bird whose identity is sought, and verify one's selection by reading the description of the bird's characteristics and the outline of its range.

In the case of closely related species, and particularly subspecies, the subjects of range and season are of the utmost importance. Most subspecies resemble their nearest allies too closely to be identified in life by color alone, and in such cases a bird's name is to be learned by its color in connection with its distribution and the season in which it is seen.

During the breeding period, unless one chance to be in a region where two races intergrade, subspecific names may be applied to the bird in nature with some certainty, for it is a law that only one subspecies of a species can nest in the same area; but during migrations and in the winter, when several subspecies of one species may be found associated, it is frequently impossible to name them with accuracy.

For example, during the summer one need have no hesitancy in calling the Robins of the lowlands of South Carolina the Southern Robin (*Planesticus migratorius achrusterus*) but later, when the Northern Robins (*Planesticus migratorius migratorius*) begin to appear, it would be difficult, if not impossible, to distinguish them in life from the resident birds.

If it were possible to impress the student, who proposes to name the bird in the bush, with the *absolute necessity* for careful, definite observation he would be saved many disappointing and discouraging experiences.

It is not possible to examine your bird too thoroughly. Never be satisfied with a superficial view and a general impression. Look at your bird, if you can, from several points of view; study its appearance in detail, its size, bill, crown, back, tail, wings, throat, breast, etc., and AT ONCE enter what you see in a note-book kept for that purpose. In this way, and this way alone, can you expect to compete with those who use the gun.

It does not follow, however, that because one does not collect specimens of birds one cannot study them scientifically. While the student may not be interested in the classification of birds purely from the standpoint of the systematist, he is strongly urged to acquaint himself with at least the arrangement of the [illegible] Families of our birds and their leading structural characters.

How to Learn a Bird's Name

To the student who desires to prepare himself for his work afield such a study may well come before he attempts to name the birds. But where the chief end in view is to learn a bird's name, the more technical side of the subject may be deferred. In any event, it should not be neglected. This orderly arrangement of knowledge will not only be practical benefit in one's future labors but it will bring with it that sense of satisfaction which accompanies the assurance that we know what we know.

As one learns to recognize bird after bird it is an admirable plan to classify systematically one's list of bird acquaintances under their proper Orders and Families. These may be learned at once from the systematic table at the end of the book, where the numbers which precede each species are arranged serially, and hence systematically.

In some instances, as an aid to identification in the field, descriptions of birds' notes have been included. It is not supposed that these descriptions will convey an adequate idea of a bird's song to a person who has never heard it, but it is hoped that they may occasionally lead to the recognition of calls or songs when they are heard.

An adequate method of transcribing bird's notes has as yet to be devised and the author realizes only too well how unsatisfactory the data here presented will appear to the student. It is hoped, however, that they may sometimes prove of assistance in naming birds in life.

As has been said before, the aim of this volume is to help students to learn the names of our birds in their haunts. But we should be doing scant justice to the possibilities of bird study if, even by silence, we should imply that they ended with the learning to know the bird. This is only the beginning of the quest which may bring us into close intimacy with the secrets of nature. The birds' haunts and food, their seasons and times of coming and going; their songs and habits during courtship, their nest-building, egg-laying, incubating and care of their young, these and a hundred other subjects connected with their lives may claim our attention and by increasing our knowledge of bird-life, add to our love of birds.

HOW BIRDS ARE NAMED

Birds have two kinds of names. One is a common, vernacular, or popular name; the other is a technical or scientific name. The first is usually given to the living bird by the people of the country it inhabits The second is applied to specimens of birds by ornithologists who classify them.

Common names in their origin and use know no law. Technical names are bestowed under the system of nomenclature established by Linnæus and their formation and application are governed by certain definite, generally accepted rules. The Linnæan system, as it is now employed by most American ornithologists, provides that a bird, in addition to being grouped in a certain Class, Order, Family, etc., shall have a generic and specific name which, together, shall not be applied to any other animal.

Our Robin, therefore, is classified and named as follows:

CLASS AVES, BIRDS.

ORDER PASSERES, PERCHING BIRDS.
SUB-ORDER *Oscines*, SINGING PERCHING BIRDS.
FAMILY *Turdidæ* Thrushes.
SUB-FAMILY *Turdinæ* Thrushes.
GENUS, *Planesticus*, Thrushes.
SPECIES, *migratorius* American Robin.

The Robin's distinctive scientific name, therefore, which it alone possesses, is *Planesticus migratorius*. There are numerous other members of the genus *Planesticus*, but not one of them is called *migratorius* and this combination of names, therefore, applied to only one bird.

The questions Why use all these Latin terms? Why not call the bird "'Robin" and be done with it? are easily answered. Widely distributed birds frequently have different names in different parts of their range. The Flicker (*Colaptes auratus*), for instance, has over one hundred common or vernacular names. Again, the same name is often applied to wholly different birds. Our Robin (*Planesticus migratorius*) is not even a member of the same family as the European Robin (*Erithacus rubecola.*) If, therefore, we should write of birds or attempt to classify them only by their common names, we should be dealing with such unfixed quantities that the result would be inaccurate and misleading. But by using one name in a language known to educated people of all countries, a writer may indicate, without danger of being misunderstood, the particular animal to which he refers. Among people speaking the same tongue, where a definite list of vernacular names of animals has been established, they can of course be used instead of the scientific names.

Such a list of North American birds has been prepared by the American Ornithologists' Union. It furnishes a common as well as scientific name for each of our birds, and is the recognized standard of nomenclature among American ornithologists. The names and numbers of birds employed in this Color Key are those of the American Ornithologists' Union's 'Check-List of North American Birds.'

It will be observed that in this 'Check-List,' and consequently in the following pages, many birds have three scientific names, a generic, specific, and sub-specific. The Western Robin, for example, appears as *Planesticus migratorius propinquus*. What is the significance of this third name?

In the days of Linnæus, and for many years after, it was supposed that a species was a distinct creation whose characters never varied. But in comparatively recent years, as specimens have been gathered from throughout the country inhabited by a species, comparison frequently shows that specimens from one part of its range differ from those taken in another part of its range. At intervening localities, however, intermediate specimens will be found connecting the extremes.

Generally, these geographical variations, as they are called, are the result of climatic conditions. For instance, in regions of heavy rainfall a bird's colors are usually much darker than they are where the rainfall is light. Song Sparrows, for example, are palest in the desert region of Arizona, where the annual rainfall may not reach eight inches, and darkest on the coast of British Columbia and Alaska, where the annual rainfall may be over one hundred inches. In going from one region, however, to the other the gradual changes in climate are accompanied by gradual changes in the colors of the Song Sparrows, and the wide differences between Arizona and Alaska Song Sparrows are therefore bridged by a series of intermediates.

Variations of this kind are spoken of as geographic, racial, or subspecific and the birds exhibiting them are termed subspecies. In naming them a third name, or trinomial is employed, and the possession of such a name indicates at once that a bird is a geographic or racial representative of a species, with one or more representatives of which it intergrades.

Returning now to the Robin. Our eastern Robins always have the outer pair of tail-feathers tipped with white and, in adults, the back is blotched with black; while Robins from the Rocky Mountains and westward have little or no white on the outer tail-feathers, and the back is dark gray, without black blotches. These extremes are connected by intermediate specimens sharing the characters; of both eastern and western birds. We do not, therefore, treat the latter as a species, but as a subspecies, and consequently, apply to it a subspecific name or trinomial, *Planesticus migratorius propinquus,* (*propinquus,* meaning nearly related.)

A further study of our eastern Robin shows that in the southern parts of its breeding range (the Carolinas and Georgia), it varies from the northern type in being smaller in size and much paler and duller in color; and to this second geographical variety is applied the name *Planesticus migratorius achrusterus,* (*achrusterus,* meaning less highly colored).

After the recognition of western and southern races of the Robin under three names (trinomial) it would obviously be inconsistent to apply only two

names (binomial) to our eastern bird, the former being no more subspecies of the latter than the latter is of the former. In other words, to continue to apply only generic and specific names to the Eastern Robin would imply that it was a full species, while the use of a trinomial for the Western or the Southern Robin shows them to be subspecies. As a matter of fact we know that there is but one species of true Robin in the United States, consequently in accordance with the logical and now generally accepted method, we apply to that species the name *Planesticus migratorius,* and this is equally applicable to Robins from east, south or west. When, however, we learn that the Eastern Robin is not a species but a subspecies, we repeat the specific name by which it was made known and call it *Planesticus migratorius migratorius.*

It may be asked, Why give names to these geographical races? Why not call Eastern, Western and Southern Robins by one name, *Planesticus migratorius,* without regard to their climatic variations?

In reply, two excellent reasons may be given for the recognition of subspecies by name; first, because in some cases they differ from one another far more than do many species, when it would clearly be inadvisable to apply the same name to what are obviously different creatures. For example, it has lately been discovered by Mr. E. W. Nelson that the small, black-throated, brown-breasted, Quails or Bob-whites of southern Mexico, through a long series of intermediates inhabiting the intervening region, intergrade with the large, white-throated, black-and-white breasted, Bob-white of our northern states. It would be absurd to call such wholly unlike birds by the same name, nor could we give a full specific name to the Mexican Bob-white since at no place can we draw a line definitely separating it from the northern Bob-white. Furthermore, the use of only two names would conceal the remarkable fact of the intergradation of two such strikingly different birds; a fact of the first importance to students of the evolution of species.

For much the same reason we should name those birds which show less pronounced variations, such as are exhibited by the Robin. Here we have a species in the making, and in tracing the relation between cause and effect,

we learn something of the influences which create species. Thus, climate has been definitely proven so to alter a species, both in size and color that, as we have seen in the case of the Song Sparrows, marked climate changes are accompanied by correspondingly marked changes in the appearance of certain animals. In naming these animals we are, in effect, giving a 'handle to the fact' of their evolution by environment.

Since it is evident that a bird may vary much or little, according to the governing conditions and its tendency to respond to them, no fixed rule can be laid down which shall decide just what degree of difference are deserving a name. It follows, therefore, that in some cases ornithologists do not agree upon a bird's claim to subspecific rank.

In North America, however, questions of this kind are referred to a committee of seven experts of the American Ornithologists' Union, and their decision establishes a nomenclature, which is accepted as the standard by other American ornithologists and which has been adopted in this volume.

Foreign birds of wholly accidental occurrence, most of which have been found in North America but once or twice, are included in the systematic list of North American birds, but are not described or figured in the body of the book, where their presence would tend to convey an erroneous impression of their North American status. Furthermore, records of the presence of birds so rare as these can be properly based on only the capture of specimens.

In the preparation of the following pages both author and artist have had full access to the collections of the American Museum of Natural History, and they are also glad to acknowledge their indebtedness to William Brewster of Cambridge, Massachusetts, to Robert Ridgway, Curator of Birds in the United States National Museum, and to C. Hart Merriam, Chief of the Biologic Survey, for the loan of specimens for description and illustration.

SYNOPSIS OF ORDERS AND FAMILIES OF NORTH AMERICAN BIRDS.

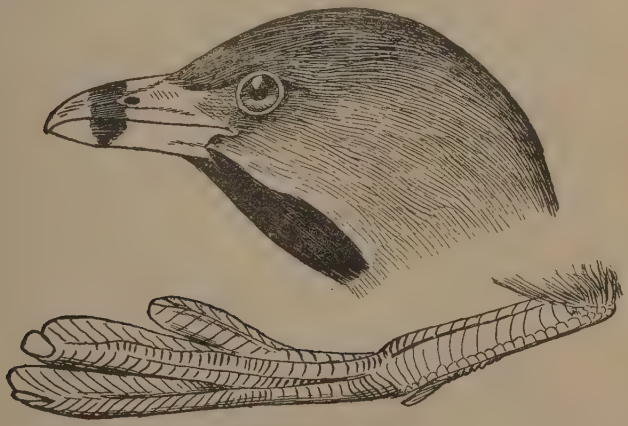
The figures are all life-size, except as stated.

WATER BIRDS.

Order I. Grebes, Loons, and Auks. PYGOPODES.

(3 families, 32 species, 3 subspecies.)

Duck-like birds with the bill usually pointed, never wider than high, and without flutings, 'gutters,' or serrations on its side; wings short, never with a bright colored patch or 'speculum'; tail rudimentary, not noticeable; toes webbed or lobed. Color usually blackish above, white below; the throat often dark. The Grebes and Loons, when pursued, dive rather than fly; the Auks usually take wing.



PIED-BILLED GREBE.

Family 1. GREBES. Podicipidæ.

Toes four, with lobate webs; tipped with a broad nail; tail wanting.

FOOT OF RAZOR-BILLED AUK.

LOON.

Family 2. LOONS. GAVIIDÆ.
Toes four, webbed; toe-nails not broad and flat; tail present.

Family 3. AUKS, MURRES, AND PUFFINS. ALCIDÆ.
Toes three, webbed; toe-nails sharp; tail present.

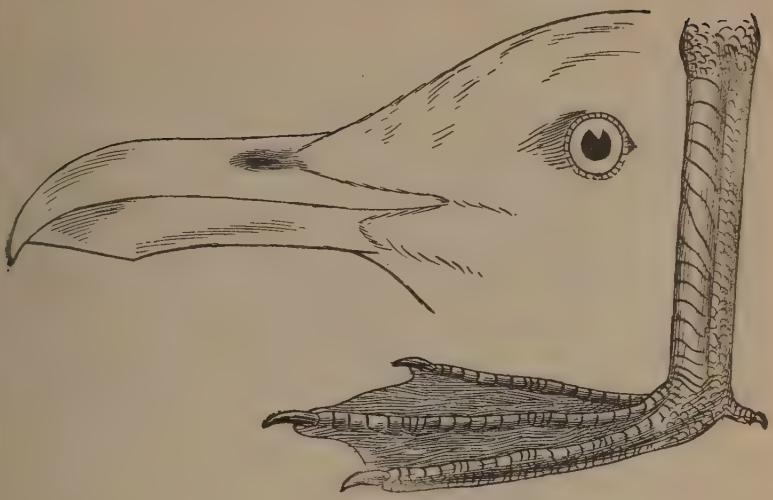
ORDER II. GULLS, TERNS, JAEGERS, ETC. LONGIPENNES.

(3 families, 42 species, 1 subspecies.)

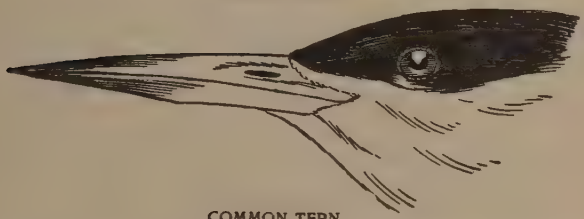
Birds generally seen on the wing, as a rule, over water. Bill strong, thick; hooked in the Gulls and Jaegers; sharply pointed in the Terns; often colored in part yellow or red; wings very long, the outer feathers much the longest; tail usually short and square in the Gulls, long and forked in the Terns; toes webbed. Color usually pearly gray above, white below in adult Gull and Terns; Jaegers and many young Gulls are dark.

PARASITIC JAEGER.

Family 4. SKUAS AND JAEGERS. STERCORARIIDÆ.
Toes four; three front ones webbed; bill with swollen, hooked tip, its base with a scaly shield.



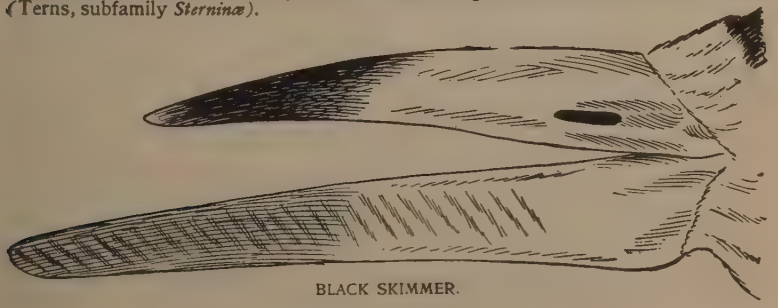
HERRING GULL.



COMMON TERN.

Family 5. GULLS AND TERNS. LARIDÆ.

Toes usually four, three front ones webbed; upper mandible curved and hooked; tail usually square (Gulls, subfamily *Larinæ*). Bill straight and pointed; tail often forked (Terns, subfamily *Sterninæ*).



BLACK SKIMMER.

Family 6. SKIMMERS. RYNCHOPIDÆ.
Toes four, three front ones webbed; bill thin and blade like, the maxilla longer than the mandible; tail slightly forked.

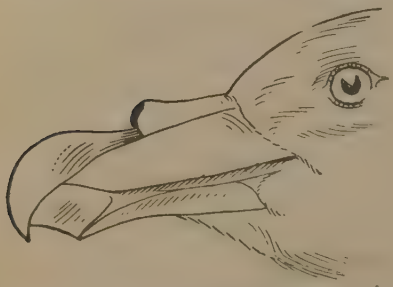
Order III. Albatrosses, Shearwaters, Petrels, Etc. TUBINARES.

(2 families, 30 species, 1 subspecies.)

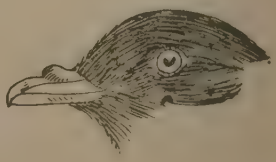
Sea-birds keeping, as a rule, well off shore, and flying low, near the water, often skimming over the waves. Bill, with upper mandible hooked; nostrils opening through tubes; wings long and pointed; tail short; feet webbed; hind-toe rudimentary or absent. Color usually gray or black and white; no bright markings.

BILL OF SHORT-TAILED ALBATROSS.

Family 7. ALBATROSSES. DIOMEDEIDÆ
Nostrils opening through tubes, separated and on either side of the bill.



FULMAR.



LEACH PETREL.

Family 8. FULMARS, PETRELS AND SHEARWATERS. PROCELLARIIDÆ.
Nostrils joined and situated on top of the bill.

Order IV. Cormorants, Pelicans, Gannets, Man-o'war Birds, and Tropic-Birds. STEGANOPODES.

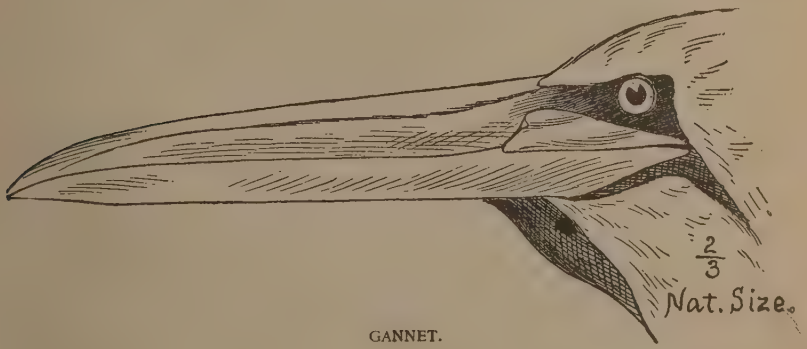
(6 families, 19 species, 5 subspecies.)

Large birds, two feet or more in length, varying widely in appearance and habits; in external structure agreeing only in having all four toes joined by webs.

YELLOW-BILLED TROPIC BIRD.

Family 9. TROPIC BIRDS. Phaëthontidæ.

Bill pointed, somewhat tern-like; central tail feathers much elongated; chin feathered.



GANNET.

Family 10. GANNETS. Sulidæ.

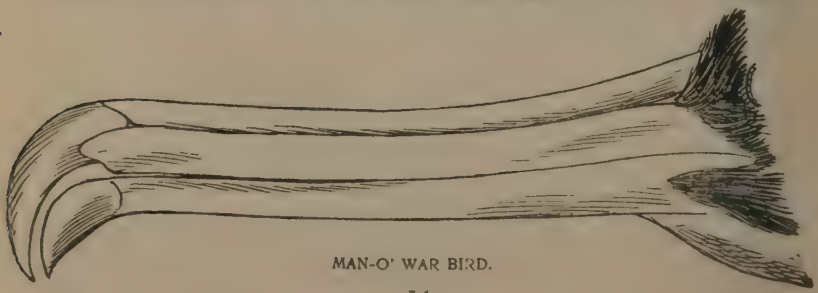
Bill stout, its tip not hooked; chin and eye space bare; tail pointed, its feathers not 'fluted.'

ANHINGA.

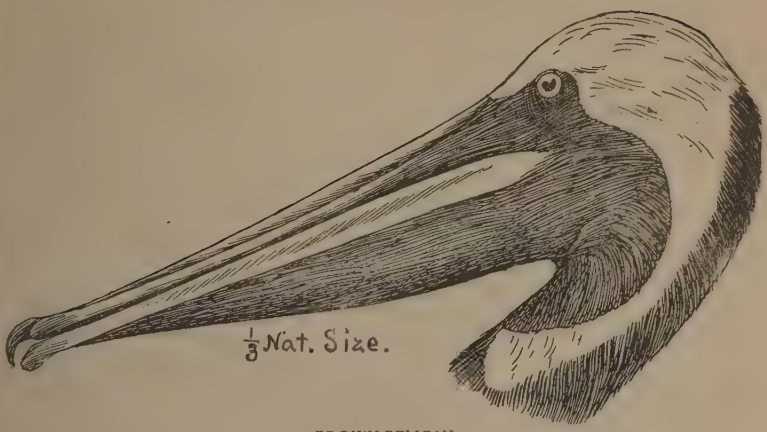
Family 11. ANHINGAS; SNAKE-BIRDS. ANHINGIDÆ.
Bill straight and slender; chin and eye space bare; tail rounded; its middle feathers fluted.

VIOLET-GREEN CORMORANT.

Family 12. CORMORANTS. PHALACROCORACIDÆ.
Bill with a hooked tip; a small pouch at its base; plumage usually black or blackish.



MAN-O' WAR BIRD.



BROWN PELICAN.

Family 13. PELICANS. PELECANIDÆ.
Bill hooked at tip, with a large pouch; tail short, square; eye space bare.

Family 14. MAN-O' WAR BIRDS. FREGATIDÆ.
Bill hooked; pouch small; tail long and forked; eye space feathered.

ORDER V. DUCKS, GEESE, AND SWANS. ANSERES.

(1 family, 49 species, 6 subspecies.)

Birds of familiar form; bill, except in Mergansers or Saw-billed Ducks, broad and with rows of 'strainers' or 'gutters' on either side; wings short, in the Ducks usually with a bright colored patch or speculum; tail generally short; legs short; feet webbed. Most species, unlike the Grebes, take wing rather than dive when pursued.

RED-BREASTED MERGANSER.

MALLARD.

Family 15. DUCKS, GEESE, AND SWANS. ANATIDÆ.

Bill long, narrow, and rounded with tooth-like projections along its sides. (Mergansers. Subfamily *Merginæ*.)

Bill broad, flattened, typically duck-like; tarsus or leg with transverse scales; hind toe without a lobe. (River Ducks. Subfamily *Anatinæ*.)

Bill and tarsus as in preceding, but hind toe with a broad lobe or flap. (Sea and Bay Ducks. Subfamily *Fuligulinæ*.)

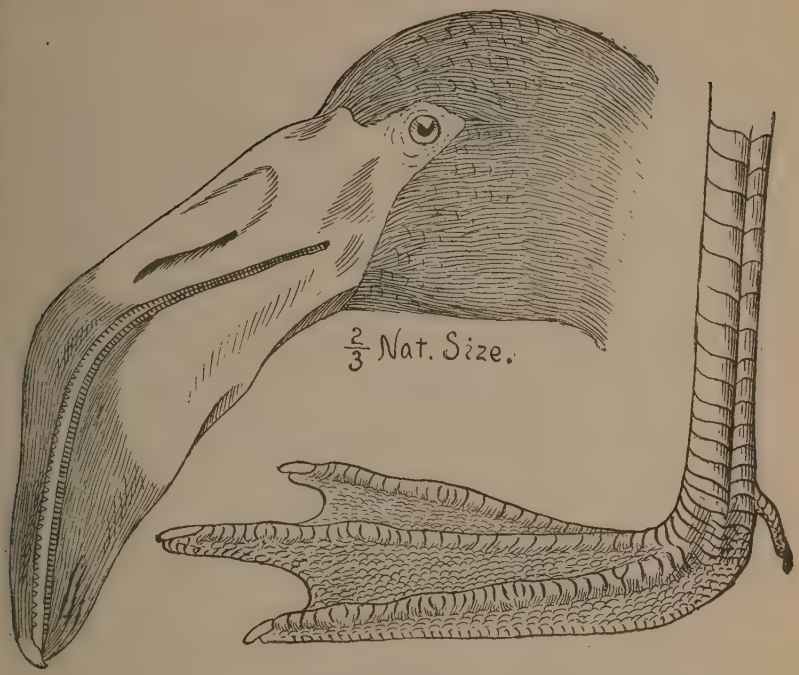
Bill proportionately narrower than in the River or Bay Ducks; gutters on its sides less developed; scales on front of tarsus rounded. (Geese. Subfamily *Anserinæ*.)

Large, usually white birds, with bare eye space. (Swans. Subfamily *Cygninæ*.)

ORDER VI. FLAMINGOES. ODONTOGLOSSÆ.

(1 family, 1 species.)

Bright red or pink and white birds, standing four feet or more in height; side of the bill with gutters, its end bent downward; wings rather short; legs long; feet webbed.



AMERICAN FLAMINGO.

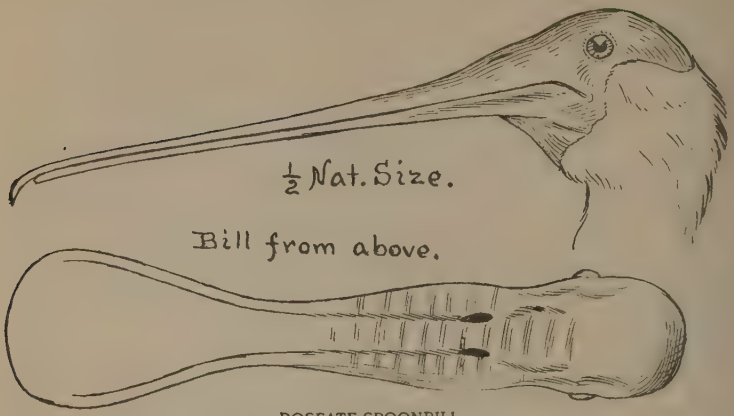
Family 16. FLAMINGOES. PHOENICOPTERIDÆ.

Characters of the Family similar to those of the Order.

ORDER VII. HERONS, BITTERNS, IBISES, AND SPOONBILLS. HERODIONES.

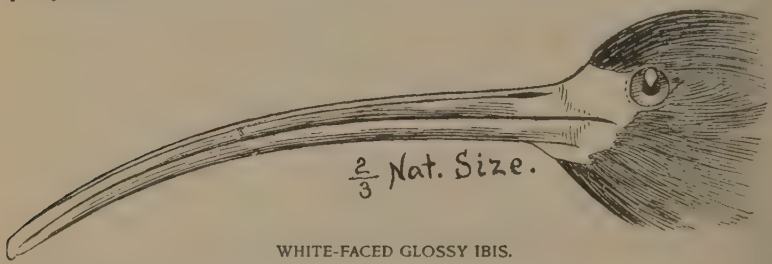
(4 families, 19 species, 3 subspecies.)

Long-legged wading birds, generally found along shores or on muddy flats; bill variable; in the Herons straight and sharply pointed; in the Ibises, slender, rounded, and curved downward; in the Spoonbill, flattened: wings rounded; tail short; legs long; toes all on same level, long, slender, without webs. Herons and Bitterns fly with a fold in the neck, the head being drawn in; Ibises and Spoonbills fly with the neck straight, the head being extended.



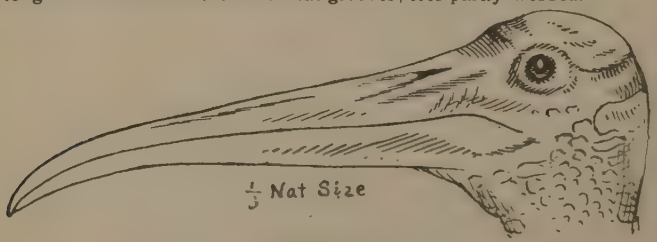
ROSEATE SPOONBILL.

Family 17. SPOONBILLS. PLATALEIDÆ.
Bill flattened and much broadened at the end; crown and face bare in adults; toes partly webbed.



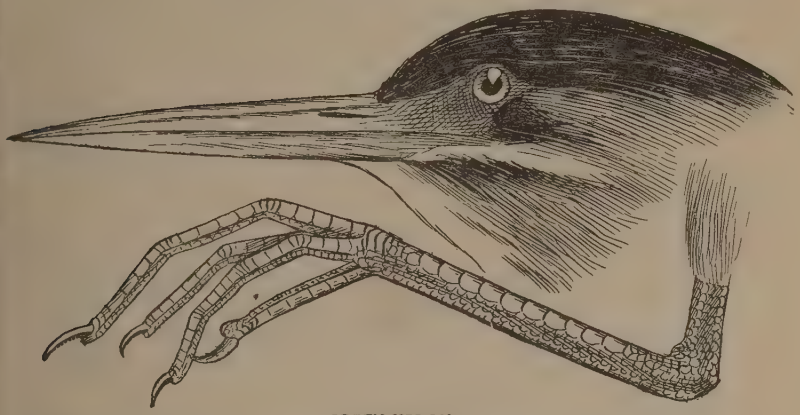
WHITE-FACED GLOSSY IBIS.

Family 18. IBISES. IBIDIDÆ.
Bill long and curved down; its side with grooves; toes partly webbed.



WOOD IBIS.

Family 19. STORKS AND WOOD IBISES. CICONIIDÆ.
Bill stout, without grooves; tarsus reticulate.



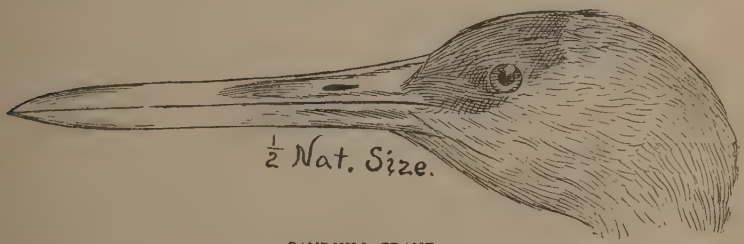
GREEN HERON.

Family 20. HERONS, EGRETS, AND BITTERNS. ARDEIDÆ.
Bill usually straight and sharply pointed; lores naked; head feathered; tarsus with transverse scales; middle toe-nail pectinate or with a comblike edge.

ORDER VIII. CRANES, RAILS, COOTS, GALLINULES, ETC. PALUDICOLÆ.

(3 families, 16 species, 3 subspecies)

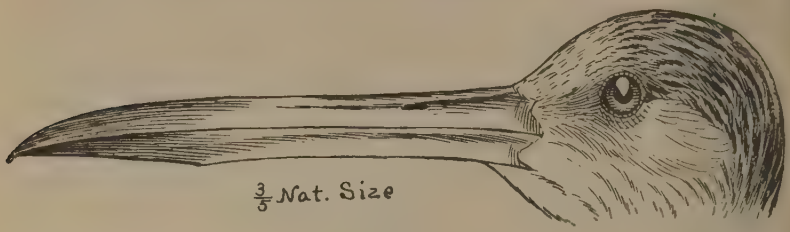
Birds varying greatly in size and appearance, but all agreeing (and differing from *Herodiones*) in having the hind-toe elevated, that is, leaving the foot at a higher level than the front toes; tail short; legs usually long. All fly with the neck extended, a fact by which Cranes in flight may be known from Herons. Rails are short-winged skulkers in grassy marshes; Gallinules frequent reedy shores; Coots, which alone of the Order have webbed (lobate) toes, are as aquatic as Ducks, from which they may be known by their pointed, white bill, nodding motion of the head when swimming, and habit of pattering over the water when alarmed.



SANDHILL CRANE.

Family 21. CRANES. GRUIDÆ.

Large birds over three feet in length; head partly bare in adults.

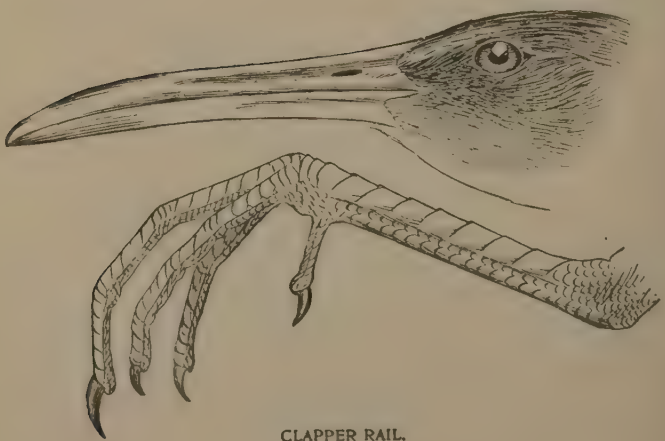


LIMPKIN.

Family 22. COURLANS. ARAMIDÆ.

Bill long and slender; head wholly feathered; toes not webbed.

SORA



CLAPPER RAIL.

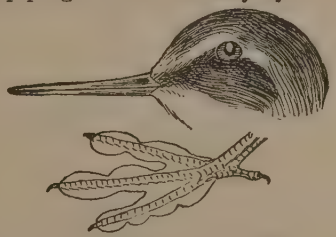
AMERICAN COOT.

Family 23. RAILS, COOTS, AND GALLINULES. RALLIDÆ.
Bill variable; toes always long, webbed (lobed) in only one species; wings short and rounded; tail short.

Order IX. Snipes, Sandpipers, Curlews, Plovers, Etc. LIMICOLÆ.

(7 families, 55 species, 4 subspecies.)

Generally long-legged, slender-billed birds of shores and mud flats, and sometimes fields. Most of them are under a foot in length; none are so large as the Ibises; wings long and pointed; tail short; toes long and slender, usually without webs; color generally brown or blackish above, mottled and streaked with whitish and buff. Many species utter characteristic piping whistles as they fly or when they take wing.

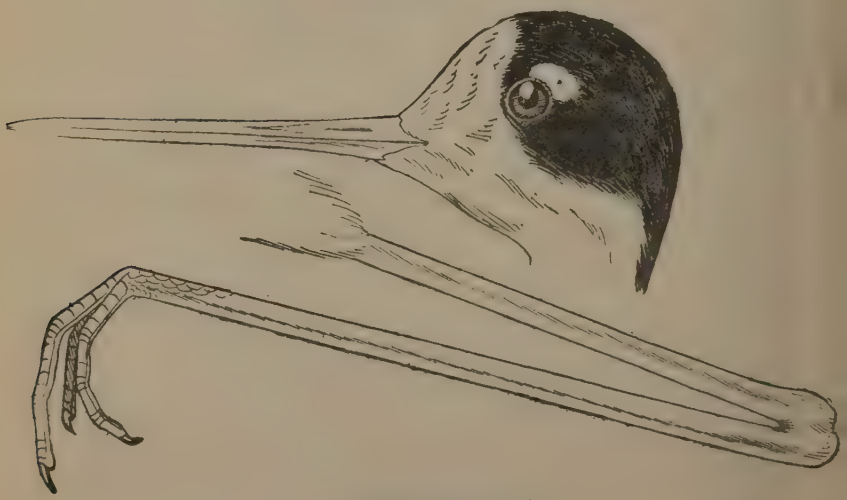


NORTHERN PHALAROPE.

Family 24. PHALAROPES. PHALAROPODIDÆ.
Front toes with lobes or webs; tarsus flattened; plumage thick; swimming Snipe.

16578

AMERICAN AVOCET.

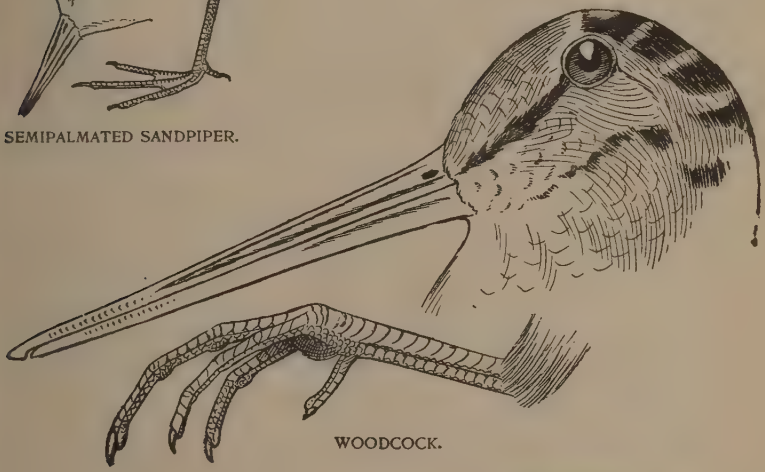


BLACK-NECKED STILT.

Family 25. AVOCETS AND STILTS. RECURVIROSTRIDÆ.

Long legged, wading Snipe; in Avocets toes four, front three webbed; bill recurved; in Stilts toes three, almost unwebbed; bill straight.

SEMIPALMATED SANDPIPER.

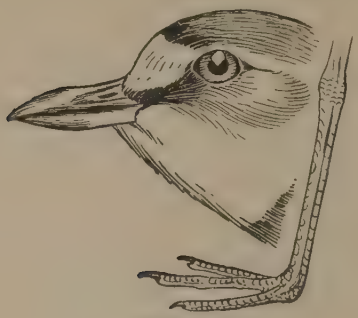


WOODCOCK.

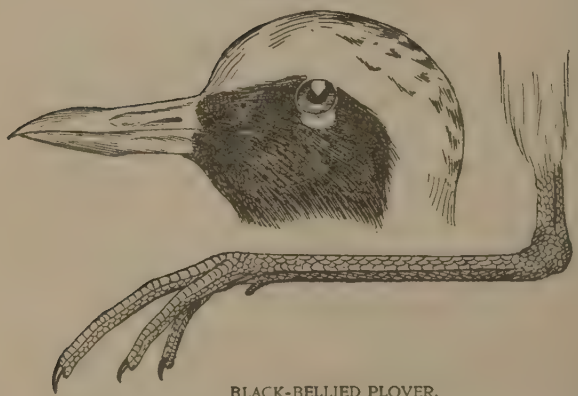
HUDSONIAN CURLEW.

Family 26. SNIPES, SANDPIPERS, CURLEWS, ETC. SCOLOPACIDÆ.

Toes usually four; tarsus with transverse scales; bill generally long, slender, and soft, used as a probe.



KILLDEER.



BLACK-BELLIED PLOVER.

Family 27. PLOVERS. CHARADRIIDÆ.

Toes usually three, or when four, the fourth rudimentary; tarsus with rounded scales bill, as compared with that of Snipe, short and stout.

TURNSTONE.

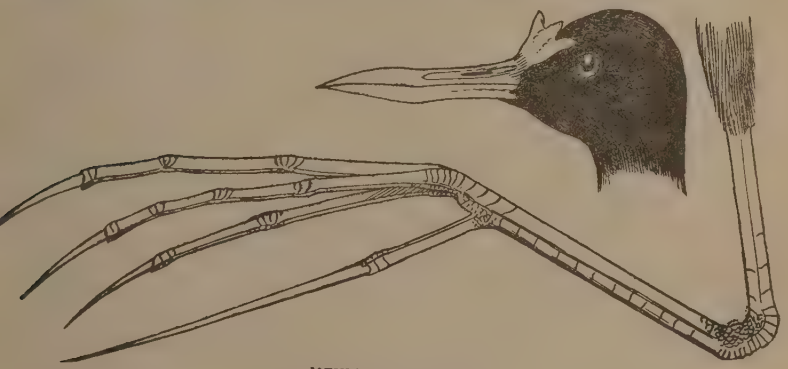
Family 28. SURF BIRDS AND TURNSTONES. APHRIZIDÆ.

Toes four, tarsus with transverse scales; bill short, rather hard.

AMERICAN OYSTER-CATCHER.

Family 29. OYSTER-CATCHERS. HÆMATOPODIDÆ.

Toes three, webbed at base; tarsus stout, with rounded scales; bill heavy, compressed, and said to be used for opening shells.



MEXICAN JACANA.

Family 30. JACANAS. JACANIDÆ.

Toes four, with their nails greatly elongated to support the bird while walking on aquatic vegetation; wing, with a sharp spur, bill with fleshy lobes at base and, in some species, on its sides.

LAND BIRDS.

ORDER X. GROUSE, PARTRIDGES, BOB-WHITES, ETC. GALLINÆ.

(3 families, 24 species, 25 subspecies.)

Ground-inhabiting birds of chicken-like form; bill stout, hen-like; wings short and rounded; tail variable; feet strong; hind-toe elevated. Color usually mixed brown, black, and buff, or bluish gray.

BOB-WHITE.

RUFFED GROUSE.

Family 31. GROUSE, PARTRIDGES, ETC. TETRAONIDÆ.
Characters the same as those of the Order; tarsus naked in Partridges and Quails; more or less feathered in Grouse and Ptarmigan.

⅔ NAT. SIZE.

TURKEY.

Family 32. TURKEYS, PHEASANTS, AND CHICKENS. PHASIANIDÆ.
Tarsus naked, often spurred, tail remarkably variable (for example, Turkey, Peacock); head often with a comb, wattles, or other excrescences.

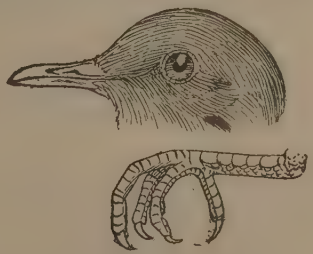
CHACHALACA.

Family 33. CURASSOWS AND GUANS. CRACIDÆ.
Large tree-haunting, pheasant-like birds; toes four, all on same level.

ORDER XI. PIGEONS AND DOVES. COLUMBÆ.

(1 family, 13 species, 3 subspecies.)

Walking birds, feeding both on the ground and in trees; bill **slender,** grooved, nostrils opening in a fleshy membrane; tail variable, **short and** square, or long and pointed; feet stout, often reddish. Color **usually** grayish brown. Call-notes a characteristic cooing.



MOURNING DOVE.

Family 34. PIGEONS AND DOVES. COLUMBIDÆ.
Characters those of the Order.

ORDER XII. VULTURES, HAWKS, AND OWLS. RAPTORES.

(4 families, 56 species, 33 subspecies.)

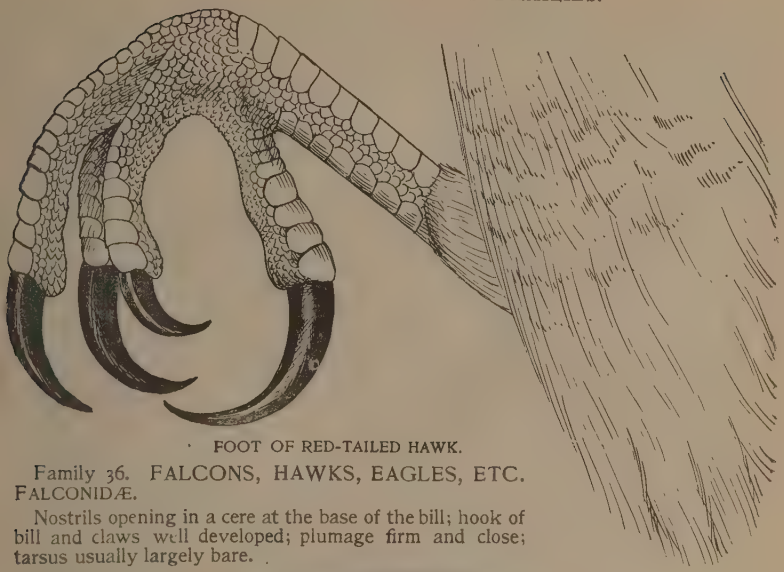
Generally large birds with hooked bill; strong, heavy feet, and long, curved nails; wings large; tail rather long, usually square.

TURKEY VULTURE.

Family 35. AMERICAN VULTURES. CATHARTIDÆ.

Bill not strongly hooked; toe-nails comparatively weak; nostrils large, piercing the bill; head and more or less of neck, bare.

RED-TAILED HAWK.



FOOT OF RED-TAILED HAWK.

Family 36. FALCONS, HAWKS, EAGLES, ETC. FALCONIDÆ.

Nostrils opening in a cere at the base of the bill; hook of bill and claws well developed; plumage firm and close; tarsus usually largely bare.

¾ Nat Size.

BARN OWL.

Family 37. BARN OWLS. STRIGIDÆ.

Eyes black, set in a somewhat triangular facial disc; bill more or less concealed by feathers; nostril opening at the edge of a fleshy cere; inner edge of middle toe nail serrate; no 'ears'; tarsus feathered.

$\frac{3}{4}$ Nat. Size.

SCREECH OWL.

Family 38. HORNED OWLS, ETC, BUBONIDÆ.

Eyes yellow or black, set in a circular facial disc; bill more or less concealed by feathers; nostrils opening at the edge of a fleshy cere; tarsus feathered.

ORDER XIII. PAROQUETS AND PARROTS. PSITTACI.

(1 family, 2 species.)

Usually bright green birds with a heavy hooked bill, broad scoop-shaped lower mandible; long, pointed wings; tail, in Parrots, generally square; in Paroquets, pointed; feet heavy, two toes in front and two behind.

CAROLINA PAROQUET.

Family 39. PARROTS AND PAROQUETS. PSITTACIDÆ.

Characters the same as those of Order.

Order XIV. Cuckoos, Trogons, Kingfishers, Etc. COCCYGES.

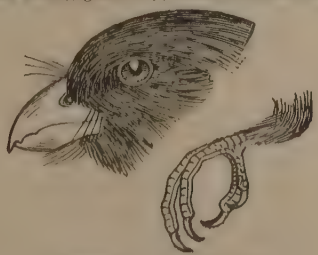
(3 families, 8 species, 2 subspecies.)

A composite Order of several groups of birds bearing no close relation to each other. Cuckoos have slightly curved bills, long tails, and two toes in front and two behind. Trogons have short, rather broad, stout bills, and soft, loose plumage, often green above, red below; moderately long tails; small feet with two toes in front, two behind. Kingfishers have long, rather stout, pointed bills; wings, long; tail, medium; three toes in front and one behind; middle and outer toes joined for half their length.

YELLOW-BILLED CUCKOO.

Family 40. CUCKOOS, ANIS, ETC. Cuculidæ.

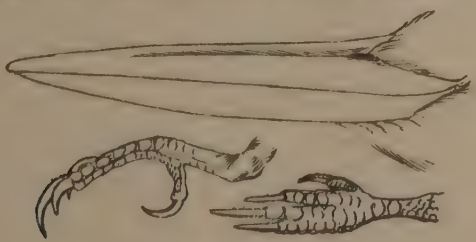
Toes two in front, two behind; bill, usually, more or less decurved; tail, long and rounded, the outer feathers being, generally, much shorter than the middle pair.



COPPERY-TAILED TROGON.

Family 41. TROGONS. Trogonidæ.

Toes two in front, two behind; bill, short; upper mandible decurved and dentate; tail square; plumage, soft, loose, and generally shining green above.



BELTED KINGFISHER.

Family 42. KINGFISHERS. ALCEDINIDÆ.
Legs short; feet small; toes, three in front, one behind; third and fourth toes joined; bill, stout and long.

Order XV. Woodpeckers. PICI.

(1 family, 24 species, 22 subspecies.)

Climbing birds with stout, pointed bills, bristly nostrils, pointed, stiffened tail feathes, strong feet and nails; two toes in front and two behind, except in *Picoides*, which has two in front and one behind. Prevailing colors, black and white, the males usually with red on the crown.

FOOT OF THREE-TOED WOODPECKER.

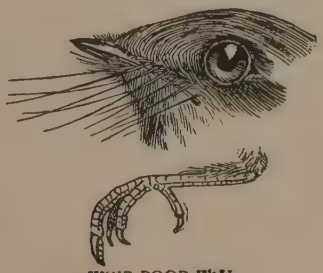
PILEATED WOODPECKER.

Family 43. WOODPECKERS. PICIDÆ.
Characters the same as those of the Order.

Order XVI. Goatsuckers, Swifts, and Hummingbirds. MACROCHIRES.

(3 families, 27 species, 6 subspecies.)

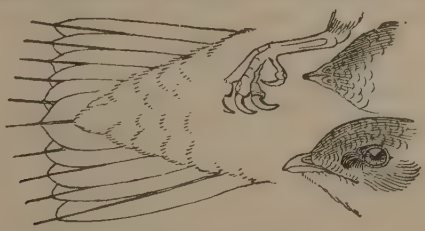
Bill, in the Goatsuckers and Swifts, small; mouth large; in the Hummingbirds, bill long, slender, needle-like; wings and tail variable; feet, in all three groups, small and weak. Color, in Goatsuckers, mixed brown, buff and black; in Swifts, black and white; in Hummingbirds, usually shining green above with resplendent throat-patches of varied hues.



WHIP-POOR-WILL.

Family 44. GOATSUCKERS, ETC. Caprimulgidæ.

Feet usually small and weak; toes, three in front, one behind; middle toe-nail pectinate or combed; bill small; mouth very large and usually beset by long bristles.



CHIMNEY SWIFT.

Family 45. SWIFTS. Micropodidæ.

Bill small, triangular when seen from above; mouth large, no bristles; tail variable, in *Chætura* with projecting spines; wings long and narrow; feet small and toes short; plumage usually dark.

RUBY-THROATED HUMMINGBIRD.

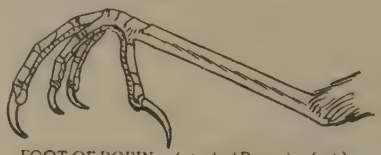
Family 46. HUMMINGBIRDS. Trochilidæ.

Bill long and slender; feet slender; wings large and pointed; tail exceedingly variable, often assuming the most striking shapes.

Order XVII. Flycatchers, Jays, Blackbirds, Finches, Swallows, Warblers, Thrushes, and Other Perching Birds. PASSERES.

(18 families, about 325 species and 226 subspecies.)

Bill, wings, and tail variable; feet with four toes not connected, the hind-toe as long as the middle one; its nail generally longer than that of the middle toe. This Order contains more species than the remaining sixteen Orders put together. In it will be found over 80 per cent. of the birds commonly seen by field students. It is difficult of definition, but almost any small perching bird may, with more or less certainty, be referred to the *Passeres*.



FOOT OF ROBIN.—(a typical Passerine foot.)

PHŒBE.

Family 48. FLYCATCHERS. Tyrannidæ.

Bill broad, flat, hooked at tip, its base with bristles; wings rather pointed, the second to fourth primaries longest; tarsus rounded behind as well as in front; feathers of crown generally somewhat lengthened, forming when erected, a small crest; pose, when perching, erect; food of insects usually captured on the wing; voice generally unmusical.

HORNED LARK.

Family 49. LARKS. Alaudidæ.

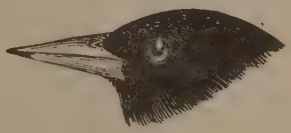
Hind toe-nail much lengthened; bill rounded, straight; tarsus rounded behind as well as in front; our species with a tuft of feathers on either side of the head; outer primary short or rudimentary; walking birds, singing while on the wing.

BLUE JAY.

Family 50. CROWS AND JAYS. CORVIDÆ.

Large perching birds, usually twelve inches or more in length; bill stout; nostrils covered by projecting bristles; feet heavy; outer tail-feathers usually shortest; fourth to fifth primary longest, first about half as long.

PURPLE GRACKLE.



BALTIMORE ORIOLE.

Family 52. BLACKBIRDS, ORIOLES, ETC. ICTERIDÆ.

Base of bill, between nostrils, extending back and dividing feathers on forehead; nostrils not concealed by bristles; first three primaries of equal length.

REDPOLL.

SONG SPARROW.

EVENING GROSBEAK.

CARDINAL

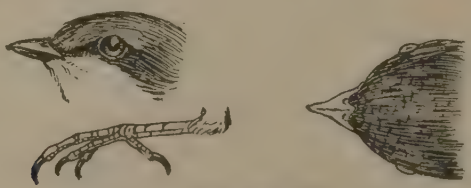
Family 53. FINCHES, SPARROWS, ETC. FRINGILLIDÆ.

Bill short, stout, conical; third or fourth primaries longest; first about half an inch shorter; the majority are small birds and but few are over eight inches in length.

SUMMER TANAGER.

Family 54. TANAGERS. TANAGRIDÆ.

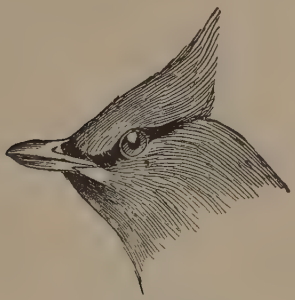
Bill somewhat finch-like but more swollen in outline; the upper mandible, in typica forms, toothed or dentate.



TREE SWALLOW.

Family 55. SWALLOWS. HIRUNDINIDÆ.

Bill short, broad and flat; feet small and weak; wings long and narrow; tail notched and sometimes forked; birds of the air, feeding while on the wing.



CEDAR WAXWING.

Family 56. WAXWINGS. AMPELIDÆ.
Bill short, stout, and rounded, its tip notched; wings rather long; head crested.

NORTHERN SHRIKE.

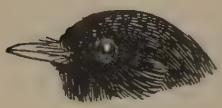
Family 57. SHRIKES. LANIIDÆ. Bill stout, its mandible hooked and hawklike; feet truly Passerine; pose, in perching, erect; solitary grayish birds.

RED-EYED VIREO.

Family 58. VIREOS. VIREONIDÆ.
Bill small but distinctly hooked; outer primary usually very small and sometimes apparently wanting; olive-green gleaners among the leaves.

NASHVILLE WARBLER.

YELLOW WARBLER.



AMERICAN REDSTART.

CHAT.

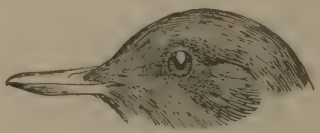
Family 60. WARBLERS. MNIOTILTIDÆ.

Bill, in most of the species, slender, sharply pointed, and without a notch or hook at the tip; in the genera *Wilsonia* and *Setophaga*, flat and flycatcher-like; in *Icteria* stout; back of tarsus compressed into a thin ridge; three outer primaries of nearly equal length.

AMERICAN PIPIT.

Family 61. WAGTAILS. MOTACILLIDÆ.

Hind toe-nail much lengthened; bill slender, nostril not covered with bristles, as in true Larks; back of tarsus thin, not rounded; terrestrial, walking with a wagging motion of the tail.



AMERICAN DIPPER.

Family 62. DIPPERS. CINCLIDÆ.

Thick-set birds with short wings and tail; plumage thick and water-proof; tarsus scaled; semi-aquatic in habit, haunting mountain streams.

BROWN THRASHER.

HOUSE WREN.

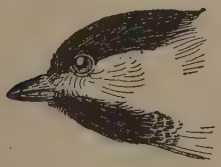
Family 63. WRENS, THRASHERS, ETC. TROGLODYTIDÆ.

Tarsus scaled; tail rounded, the outer feathers being shortest; third to fourth primary longest, the outer half as long; bill in Thrashers often decurved, its base with bristles; in Wrens, bill without bristles; brown or grayish inhabitants of lower growth.

BROWN CREEPER.

Family 64. CREEPERS. CERTHIIDÆ.

Bill slender and much decurved; tail usually pointed and stiffened.



CHICKADEE.

RED-BREASTED NUTHATCH.

Family 65. NUTHATCHES AND TITS. PARIDÆ.

Fourth or fifth primary longest; first an inch or less in length. Chickadees (subfamily *Parinæ*) have a short, stout bill, the nostrils covered with bristles; the tail is rather long and rounded. Nuthatches (subfamily *Sittinæ*) have a long, slender bill, short, square tail, and large feet.

GOLDEN-CROWNED KINGLET.

Family 66. KINGLETS, GNATCATCHERS, ETC. SYLVIIDÆ.
Bill slender and Warbler-like, but first primary only one-third as long as the fourth

WOOD THRUSH.

Family 67. THRUSHES, BLUEBIRDS, ETC. TURDIDÆ.
Tarsus 'booted', without scales, (see foot of Robin under Synopsis of Order *Passeres*); tail square; mandible notched and slightly hooked; outer primary an inch or less in length; second to fourth of about equal length.

COLOR KEY TO

NORTH AMERICAN BIRDS.

Order I. DIVING BIRDS.

PYGOPODES.

Family 1. GREBES. Podicipidæ. 6 species.

Family 2. LOONS. Gaviidæ. 5 species.

Family 3. AUKS, MURRES, and PUFFINS. Alcidæ. 21 species, 3 subspecies.

Grebes are at home in reed-grown ponds or sloughs where their nests are made on rafts or islets of water-soaked vegetation. Their eggs number from four to eight, are dull white in color, and are usually covered by the bird with a portion of the nesting material when it leaves its home. Grebes occasionally rest on the shore, but are rarely found far from the water. When on land they may lie flat on their breasts or sit erect on their tails and entire foot, or tarsus. Their progress on land, as a rule, is awkward and they may use their wings as fore feet to assist them. In diving, Grebes sometimes spring partly from the water and then plunge downward head first, or they may quietly sink with scarce a ripple to mark the place of their disappearance.

Loons generally pass the summer on some large lake, and in the winter many of them live at sea. They nest, as a rule, on the shore, but so near the water that the parent bird may slide off its two dark brown, mottled eggs into its favorite element. Like the Grebes, Loons are expert divers, and birds of both families so often seek safety under the water rather than in the air that it is frequently difficult to make them fly. The young of both Grebes and Loons are born covered with feathers and take to the water shortly after birth, often using the back of the parent bird as an ever present island on which they may rest at will.

The Auks, Murres, and Puffins are sea birds which nest usually in large colonies on isolated islets or rocky, inaccessible shores of the northern part of the northern hemisphere. They lay one or two eggs, sometimes in an exposed position among the rocks with no attempt at nest-building, sometimes at the end of a burrow excavated by the birds. In the latter case, the young are reared in the nest; in the former, they sometimes enter the water at an early age.

The one egg laid by Murres is remarkable both in color and in shape. In color it varies from bluish green to buff, and is usually heavily scrawled with black. In outline it is pyriform or pear-shaped. When moved it does not roll away as would a hen's egg but revolves about its own tip. In this manner it retains its place on the narrow ledges often chosen by Murres for nesting-sites.

2. Holbœll Grebe (*Colymbus holbœlli*). L. 19. *Ads.* Crown and hindneck glossy black; back blackish; throat, cheeks, and underparts white; foreneck and sides rufous. *Winter.* Above blackish brown; throat and underparts white; foreneck pale rufous. *Yng.* Similar but no rufous. *Notes.* "An explosive *kup*" and "An exceedingly loud harsh voice not unlike that of an angry Crow, but of much greater volume. The calls were also given more slowly and indeed with singular deliberation, *car, car*, three or four times, sometimes lengthened to *caar*, and again, broken and quavering like *ca-a-a-r* or *ca-a-a-a-r*." (Brewster.)

Range.—North America, eastern Siberia, and Japan; breeds locally in the interior from about Lat. 50° northward; winters from Maine and British Columbia southward to South Carolina, Nebraska and southern California, chiefly on the coasts.

3. Horned Grebe (*Colymbus auritus*). L. 13.5. *Ads., summer.* Crown, hindneck, and throat glossy black; plumes behind eye deep buff; back and wings blackish; foreneck, breast, sides, and lores chestnut; abdomen white. *Winter.* Above grayish black; below white.

Range.—Northern Hemisphere: breeds largely in the interior from eastern Quebec, northern Illinois, St. Clair Flats, North Dakota, and British Columbia northward; winters from Maine and British Columbia south to Gulf States and southern California.

4. American Eared Grebe (*Colymbus nigricollis californicus*). L. 13. *Ads.* Above, neck all around, and *upper breast* brownish black; cheek tufts yellowish brown; flanks chestnut; belly white. *Winter.* Grayish brown above; white below.

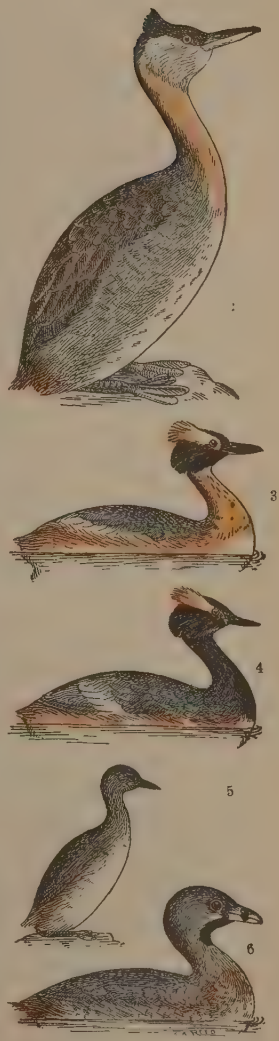
Range.—Western North America east to Kansas; breeds locally from Texas and middle California north to Manitoba and British Columbia; winters from British Columbia, on the Pacific coast, and Texas southward.

5. Least Grebe (*Colymbus dominicus brachypterus*). L. 10 *Ads.* Throat black, *cheeks slaty*, above blackish; below grayish. *Winter.* Similar but no black or slate on throat or cheeks. Smallest of our Grebes.

Range.—Lower Rio Grande Valley in Texas and southern Lower California south to northern South America.

6. Pied-billed Grebe (*Podilymbus podiceps*). L. 13.5. *Ads., summer.* Above brownish black; throat and band on bill black; foreneck, breast, and sides brownish; belly white. *Winter.* The same, but throat white, breast more rusty, bill without black band. *Notes.* A loud, sonorous, "*cow-cow-cow-cow-cow-cow-cow-cow-cow-uh, cow-uh, cow-uh, cow-uh.*"

Range.—Argentine Republic; north through Mexico and West Indies to Lat. of Hudson Bay; breeds locally throughout its range, but chiefly northward; winters from New Jersey, Illinois, and southern California southward.



7

9

1. Western Grebe; Swan Grebe (*Æchmophorus occidentalis*). L. 26. *Ads., summer.* Crown and hindneck black; back grayish brown; sides of head and under parts white. *Winter.* Crown and hindneck like back. *Notes.* A loud, rattling, grating whistle.

Range.—Western North America; in summer eastward to Shoal Lake, Manitoba; northward to southern Alaska; breeds locally from northern California and North Dakota northward; winters from British Columbia to central Mexico.

7. Loon (*Gavia imber*). L. 32. *Ads., summer.* Above, including whole neck, glossy black; throat and neck with white streaks; back and wings with white spots or bars; belly white. *Winter* Above blackish *margined with grayish*; no white spots; below white. *Notes.* A loud, maniacal laugh.

Range.—Northern hemisphere; in North America, breeds from Maine, northern Illinois, Minnesota, and northern California north to Greenland and Alaska; winters from about southern limit of breeding range south to Gulf of Mexico, chiefly on coasts.

8. Yellow-billed Loon (*Gavia adamsii*). L. 36. Similar to No. 7, but larger and bill yellowish or whitish. *Notes.* Similar to those of No. 7, but harsher. (Murdoch.)

Range.—"Arctic America west of Hudson Bay, and northern Asia; casual in northern Europe." (A. O. U.)

9. Black-throated Loon (*Gavia arctica*). L. 27; W. 12. *Ads., summer.* Foreneck and back bluish black; throat, neck, and back streaked or barred with white; crown and nape *gray*; belly white. *Winter.* Similar to No. 7, but smaller. *Notes.* A dismal "*too-too-o-o.*" (Turner.)

Range.—Northern part of northern hemisphere; in America breeds from Hudson Bay north to Arctic coast; winters south to British Columbia, the Great Lakes and, casually, to Long Island.

10. Pacific Loon (*Gavia pacifica*). Similar to No. 9, but foreneck in summer reflecting deep blue or green; hindneck paler; smaller, W. 11. *Notes.* A harsh "*kok, kok, kok.*" (Murdoch.)

Range.—Western North America; breeds at Point Barrow, Alaska, and eastward; winters south along Pacific Coast to Mexico.

11. Red-throated Loon (*Gavia lumme*). L. 25. *Ads., summer.* Foreneck chestnut, head and neck ashy. *Winter.* Similar to No. 7, in winter, but back spotted with white. *Notes.* A harsh "*gr-r ga, gr-r, gr-r-ga, gr-r.*" (Nelson.)

Range.—Northern part of northern hemisphere; in North America breeds from New Brunswick to Greenland and Hudson Bay, and northwest to Alaska; winters south to South Carolina and southern California.

12. Tufted Puffin (*Lunda cirrhata*). L. 15. *Ads., summer.* Cheeks white; a pair of long straw color plumes from behind eyes; rest of plumage sooty. *Winter.* Cheeks sooty, plumes usually absent. *Yng.* Similar to winter adult, but breast and belly whitish.

Range.—Northern Pacific; resident locally from Santa Barbara Islands north to Alaska. Accidental in Maine.

13. Puffin (*Fratercula arctica*). L. 13; W. 6; B. 1.8. *Ads.* Above, and foreneck blackish; cheeks and under parts white; bill in summer touched with bright red. *Notes.* A hoarse croak.

Range.— North Atlantic; breeds from Bay of Fundy north to Greenland; winters south to Long Island.

13a. Large-billed Puffin (*F. a. glacialis*). W. 7; B. 2. 1. Similar to No. 13, but larger.

Range.—Arctic Ocean from Spitzenbergen to northern Greenland.

14. Horned Puffin (*Fratercula corniculata*). Similar to No. 13, but in summer with the *throat* blackish. *Notes.* "A hoarse snuffling, rattling note" (Nelson.)

Range. "Northern Pacific from Kuril Islands to British Columbia." (A. O. U.)

15. Rhinoceros Auklet (*Cerorhinca monocerata*). L. 15.5. *Ads., summer.* A horn on base of bill; *two* pairs of white tufts; above blackish; throat and breast grayish; belly white. *Winter.* Similar, but no horn. *Yng.* Similar to winter ad. but no tufts.

Range.—"North Pacific: breeding south (formerly) to the Farallones; in winter south to Lower California and Japan." (A. O. U.)

16. Cassin Auklet. (*Ptycoramphus aleuticus*). L. 9. *Ads.* A white spot above eye; above blackish; throat and breast grayish; belly white. *Notes.* A shrill, squealing "*Come hear-r-r, come hear-r-r.*"

Range.—"Pacific Coast of North America from Aleutian Islands to Lower California; breeding south to San Geronimo Island (Lat. 30°)." (A. O. U.)

23. Marbled Murrelet (*Brachyramphus marmoratus*). L. 9.7. *Ads., summer.* No crest; above dark brown, finely mixed with rusty; below white, all feathers edged with brown. *Winter.* Wholly different; above gray; head dark; below white; a nearly complete white nuchal collar. *Yng.* Similar to winter ad. but blacker above; sprinkled with blackish below.

Range.—North Pacific; breeds from Vancouver north to Aleutian Islands; winters south to southern California.

24. Kittlitz Murrelet (*Brachyramphus brevirostris*). L. 9.5; B., from feathers on top, .4. *Ads., summer.* Above gray, mottled with buff; breast and sides mottled with buff and black; belly white. *Winter.* Sides of head, to *above* eye, and lower parts white; above gray; outer tail-feathers white.

Range.—Northern Japan. Kamchatka and Aleutian Islands, east to Unalaska. (A. O. U.)

25. Xantus Murrelet (*Brachyramphus hypoleucus*). L. 10. Bill slender. *Ads.* Above slaty black; under surface of wing *white;* inner webs of outer primaries *white.*

Range.—Pacific Coast from Monterey south to Cape St. Lucas; breeding as far north as Santa Barbara Island.

26. Craveri Murrelet (*Brachyramphus craveri*). L. 10. Bill slender. *Ads.* Above slaty or brownish black; sides slaty; under surface of wings *dusky*, sometimes mixed with white.

Range.—Coasts of Lower California, from Cape St. Lucas north to Espiritu Santo Island in the Gulf of California, and to Natividad Island (lat. 28°) on the Pacific side. (A. O. U.)

34. Dovekie (*Alle alle*). L. 8. *Ads., summer.* Above blackish; inner wing feathers tipped with white; throat and breast blackish brown. *Winter.* Similar, but throat and breast white or mixed grayish.

Range—North Atlantic and East Arctic; in America breeds from Lat. 68° northward; winters south to Long Island, rarely to Virginia. Accidental in Michigan.

17. Paroquet Auklet (*Cyclorrhynchus psittaculus*). L. 10. *Ads., summer.* *No* crest; a white plume from behind eye; above blackish; throat grayer, rest of under parts white. *Winter.* Throat white. *Notes.* "A low, sonorous, vibrating whistle." (Nelson.)

Range. "North Pacific, from Sitka and the Kuril Islands northward." (A. O. U.) Five records for coast off San Francisco in winter.

18. Crested Auklet (*Simorhynchus cristatellus*). L. 10. *Ads., summer.* Bill red; a crest of slender recurved feathers; a pair of white tufts from behind eye; above sooty black; below grayer. *Yng.* Similar but bill brown; no crest or tufts. *Notes.* "A chirping note," (Nelson.)

Range.—North Pacific from Kadiak and Japan northward." (A. O. U.)

19. Whiskered Auklet (*Simorhynchus pygmæus*). L. 7.5. *Ads., summer.* White feathers at base of sides of bill and, much lengthened, from above and below eye; a crest of slender recurved feathers; above, and throat dark slate fading into white belly. *Yng.* Similar but no crest; little or no white on head. *Notes.* "A low chattering note." (Nelson.)

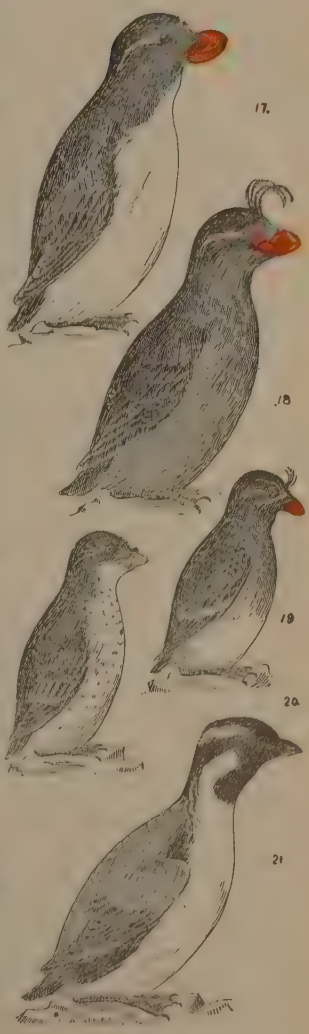
Range—"North Pacific, from Unalaska through the Aleutian chain to Kamchatka." (A. O. U.)

20. Least Auklet (*Simorhynchus pusillus*). L. 6.5. *Ads., summer.* No crest; sides of head with white feathers; above blackish; chin sooty; throat white; under parts white, marked irregularly with sooty. *Winter.* Little or no sooty on breast. *Yng.* Similar to winter ad., but no white plumes.

Range.—"North Pacific, from Sitka and Japan north to Bering Strait." (A. O. U.)

21. Ancient Murrelet (*Synthliboramphus antiquus*). L. 10.5. *Ads., summer.* No crest; head and *throat* black; broad white stripes behind eye; back gray; breast and belly white. *Winter.* Similar but throat white; no white head stripes. *Notes.* "A low plaintive whistle." (Nelson.)

Range.—North Pacific, from southern Vancouver Island and Japan northward; south in winter to Monterey, California; accidental in Wisconsin.



27.

30.

31.

32

27. Black Guillemot (*Cepphus grylle*). L. 13. *Ads., summer.* Black; greater wing-coverts white, black *at base;* under surface of wings *white. Winter.* Above gray or black tipped with white; below white.

Range.—Coasts of northern Europe and North Atlantic; in America breeds from Knox Co., Maine north to southern Greenland; winters south to Quebec and Massachusetts; rarely to Toronto, Connecticut, and Long Island.

28. Mandt Guillemot (*Cepphus mandtii*). Similar to No. 27, but bases of greater wing-coverts *white.*

Range.—Arctic regions; breeds from Labrador and Hudson Bay north to northern Greenland and northern Alaska; in winter migrates but little southward; no satisfactory United States record.

29. Pigeon Guillemot (*Cepphus columba*). Similar to No. 27, but inner surface of wings *sooty gray. Notes.* A squealing, vibrant whistle.

Range.—North Pacific; breeds from Santa Catalina Island north to Bering Strait, west through Aleutian Islands to Kamchatka and northern Japan; winters in same region.

30. Murre (*Uria troile*). L. 16; B. 1.7. *Ads., summer.* Above and neck sooty brown; under parts and tips of secondaries white; sides with blackish streaks. *Winter.* Similar, but throat white washed with sooty. *Notes.* A hoarse *murre* and squawking *a-r-r-r-r-r-r-rh.*

Range.—North Atlantic; breeds in North America from Bird Rock, Magdalen Islands, north to southern Greenland; winters south to Maine and, rarely, Ontario.

30a. California Murre (*U. t. californica*). Similar to No. 30 but larger, W. 8. 2; B. 1. 9.

Range.—North Pacific; breeds from Pribilof Islands south to Farallones; winters south to southern California.

31. Brunnich Murre (*Uria lomvia*). Similar to No. 30, but bill shorter, 1.2. In summer, head and throat browner, lower mandible swollen at sides and grayish at base.

Range.—North Atlantic and eastern Arctic; breeds in North America from Bird Rock, Magdalen Islands, north to Greenland; winters south to New Jersey and along St. Lawrence to Lakes Champlain and Ontario, rarely to Lake Michigan.

31a. Pallas Murre (*U. l. arra*). Similar to No. 31, but larger; W. 8. 6; B. 1. 5. *Notes.* "A peculiar growling or hoarse chattering note." (Nelson.)

Range.—North Pacific; south to Kadiak and Kamchatka.

32. Razor-billed Auk (*Alca torda*). L. 16.5. *Ads., summer.* Above sooty black, foreneck browner; tips of secondaries, line from bill to eye, and under parts, white. *Winter.* Similar, but foreneck white. *Yng.* Similar to winter ad. but without eye line. *Notes.* A hoarse grunt or groan.

Range.—North Atlantic; breeds from Bird Rock, Magdalen Islands, north to Greenland; winters south to Long Island and, rarely, to Ontario and North Carolina.

33. Great Auk (*Plautus impennis*). L. 29; W. 5. 7. *Ads.* Above blackish; a large white spot before the eye; secondaries tipped with white; sides of neck and the throat seal brown; belly, white. Resembling No. 32 in general appearance but body much larger; wing, however, *shorter.*

Range.—Formerly, the coasts and islands of North Atlantic, south on American side to Florida (in winter?); now extinct.

Order II. LONG-WINGED SWIMMERS.

LONGIPENNES.

Family 1. SKUAS and JAEGERS. Stercorariidæ. 4 species.
Family 2. GULLS and TERNS. Laridæ. 37 species, 1 subspecies.
Family 3. SKIMMERS. Rynchopidæ. 1 species.

Skuas and Jaegers are pirates among the birds of the high seas. Bold and dashing, they pursue the swift flying Terns or much larger Gulls with equal success, forcing them to drop the fish they have captured and catching it ere it reaches the water.

Gulls (Subfamily *Larinæ*) are usually considered so characteristic of the sea that 'Sea Gull' is the name popularly applied to all members of the subfamily to which they belong. Several species, however, are equally at home, both in the winter and when nesting, on the larger bodies of water in the interior, and one species is rarely or never found on our sea coasts.

Gulls nest on the ground, on drifts of marsh-grass, on cliffs, and one species, at least, among American Gulls (the Herring Gull) has as a result of persecution, acquired the habit of nesting in trees.

Gulls feed from the surface of the water, picking up their food with their strongly curved bills in passing or while hovering, not by plunging into the water, as do the Terns. They are, in fact, the scavengers of the water, and perform a service of great value to mankind by devouring the bodies of various forms of aquatic animals which, in dying, come to the surface and, if cast ashore, might, in decaying, prove a source of disease.

For this reason it was especially unfortunate that the plumage of these birds became fashionable for millinery purposes, with the result that thousands of them were destroyed for their wings and breasts. In this country, however, through the efforts of the American Ornithologists' Union and the Audubon Societies, laws have been passed prohibiting the killing of these beautiful and useful birds, and wardens have been placed on their nesting grounds to protect them.

Gulls often rest in great flocks on the water, sitting high up and riding the waves buoyantly, but the Terns (Subfamily *Sterninæ*), after they have acquired the power of flight, are rarely seen on the water. They are lighter, more active birds than the Gulls, with longer wings and tails, and sharper, more pointed bills. They feed largely on small

fish (the species called silversides being a favorite) of no value to man, which they secure by darting from the air with great speed and directness. When looking for food, Terns usually fly with the bill downward, a habit which will aid in distinguishing them them from the Gulls, whose bill is carried in a line with the body.

Terns usually nest in large colonies on the beach of some isolated islet either on our sea coasts or in the interior. The nest is generally composed of a few wisps of sea-weed or grass, or the two or three eggs are not infrequently laid in a slight hollow in the sand or among the shells and pebbles.

Like the Gulls, Terns have been slaughtered in enormous numbers for millinery purposes; but in this country, at least, effective efforts are now being made to preserve them.

Skimmers nest in numbers on our Atlantic Coast from Virginia southward, laying their four eggs in a slight depression in the sand. In feeding, their mouth is held open and the longer, thin, lower mandible is dropped beneath the surface of the water, when, flying rapidly, they readily pick up food.

In young Skimmers, however, the two mandibles are of equal length and the lower mandible does not become appreciably longer than the upper one until the birds begin to fly. During the flightless period of the bird's life, the bill may be used to pick up food along the shore, but when the power of flight is acquired and with it ability to feed in the characteristic Skimmer manner, then the peculiar bill of these birds becomes fully developed.

The young of all the Gulls and Terns are born covered with down and can leave the nest a few hours after birth. The Noddy, however, is said to be several weeks in its stick nest, which, unlike other members of its group, it often builds in bushes.

The young are colored to harmonize with their usual surroundings. Young Skimmers are pale, sandy brown, of the same color as the sand in which they are hatched. Young Terns are darker, and young Laughing Gulls born in nests of reeds or meadow grasses, are the darkest of the three.

All young Gulls and Terns have the habit of squatting low near the ground in the presence of danger and remaining motionless until actually touched when they seem to realize that they have been seen and trust to their legs for safety.

35. Skua (*Megalestris skua*). L. 22. *Ads.* Above dark, dirty brown; below paler. *Yng.* Similar, but more distinctly streaked with yellowish, especially on head and neck.

Range.—North Atlantic, chiefly eastern; breeds from Shetland Islands northward; winters south to Gibraltar, and rarely Long Island. One specimen from California coast.

35.

36. Pomarine Jaeger (*Stercorarius pomarinus*). L. 20; B. 1.5. Middle tail feathers rounded. *Ads. light phase.* Cap black; throat, breast, and neck, all around, white tinged with straw; back, lower belly, upper and under tail coverts brownish slate. *Ads. dark phase.* Dark brown, paler below. *Yng.* Above blackish brown margined with rusty; below white margined with dusky and buffy. *Notes.* "A low, hoarse, chattering cry." (Nelson.)

Range.—Northern hemisphere; breeds north of Lat. 70°; winters, mainly at sea, south to South America, southern Africa and Australia.

36.

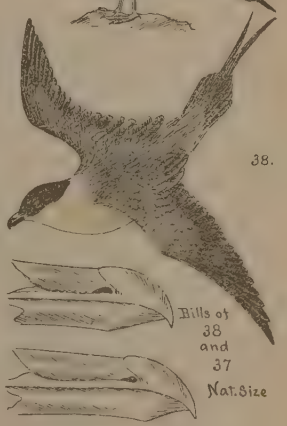
37. Parasitic Jaeger (*Stercorarius parasiticus*). L. 17; B. 1.1; its scaly shield *longer* than distance from end of shield to tip of bill. *Ads.* Both phases similar in color to No. 36, but central tail feathers *pointed*, 8.6 long. *Yng.* Similar in color to No. 36 but smaller, bill shorter, middle tail feathers more pointed. *Notes.* "Loud wailing cries, interspersed with harsh shrieks." (Nelson.)

Range.—Northern hemisphere; breeds in Arctic regions; winters mainly at sea, from California, Great Lakes, and Massachusetts south to South America.

37.

38. Long-tailed Jaeger (*Stercorarius longicaudus*). L. 21; B. 1, its scaly shield *shorter* than the distance from its end to the tip of bill. *Ads.* In both phases resembling No. 36 but central tail feathers pointed and 12 in. long. *Yng.* Like No. 36 and No. 37, but to be distinguished by differences in bill measurements. *Notes.* "A hoarse *qua*, a shrill *phĕŭ-phĕŭ-phĕŭ-pheo*, when flying; or a rattling *kr-r-r-r-*, *kr-r-r-r*, *kr-r-r*, *krē-krē-krē*, the latter syllables shrill and querulous." (Nelson.)

Range.—Northern hemisphere; breeds in Arctic regions; winters mainly at sea, south to Gibraltar and Gulf of Mexico; one California record.



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Bills of 38 and 37 Nat. Size

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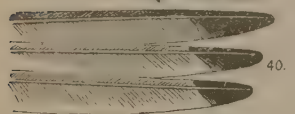

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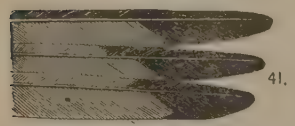

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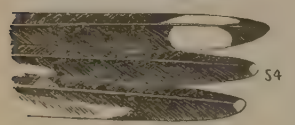

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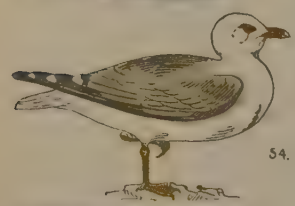

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39. Ivory Gull (*Pagophila alba*). L. 17. *Ads.* Pure white; bill yellow; feet black. *Yng.* Similar, but wings and tail tipped with blackish; throat dusky.

Range.—Breeds in Arctic regions; winters south to Great Lakes and British Columbia; rarely to Massachusetts.

40. Kittiwake (*Rissa tridactyla*). L. 16. Hind toe a knob. *Ads.* Head, neck all around, underparts, and tail white; 3 in. or less, of tips of primaries black. *Yng.* Tip of tail, ear-coverts, nape, and wing-coverts with black; bill black; inner web of primaries with white. *Notes.* A rapidly uttered *kit-a-wake, kit-a-wake.*

Range.—North Atlantic and eastern Arctic regions; breeds in America, from Gulf of St. Lawrence to Greenland; winters south to Great Lakes, Long Island and, rarely, Virginia.

40a. Pacific Kittiwake (*Rissa tridactyla pollicaris*). Similar to No. 40, but hind toe more developed; black tips to 3 outer primaries, 3 in. or more in length. *Notes.* "A shrill, harsh cry when disturbed and a low whistle when communicating with each other." (Nelson.)

Range.—"North Pacific and Bering Sea; south in winter, casually to southern California." (A. O. U.)

41. Red-legged Kittiwake (*Rissa brevirostris*). *Ads.* Similar to Ad. of No. 40, but legs red, back and inner web of primaries darker; bill shorter, 1.2. *Yng.* Similar to No. 40, but no black on tail or wings.

Range.—Coasts and Islands of Bering Sea." (A. O. U.)

54. Ring-billed Gull (*Larus delawarensis*). L. 18. *Ads., summer.* Bill greenish yellow, a black band across tip; ends of primaries black, a white spot near tip of outer one. *Ads. Winter.* Similar, but head and neck streaked with grayish. *Yng.* Tail grayish with a broad black band; primaries black; back brownish gray and whitish; belly white; end half of bill black.

Range.—North America, coast and interior; breeds from Newfoundland, southern Minnesota, and British Columbia northward; winters from Nova Scotia and British Columbia south to Cuba and Lower California.

55. Short-billed Gull (*Larus brachyrhynchus*). L. 17; B. 1.50 *Ads., summer.* Head, neck, tail, and underparts white. Two outer primaries tipped with black, their white spaces followed by black; remaining primaries tipped with white. *Yng.* Grayish brown; basal half of tail pearl. *Notes.* "A sharp querulous *kwew-kwew,*" (Nelson.)

Range.—North Pacific; breeds in Alaska and interior of northern British Columbia; winters on coast from British Columbia to southern California.

42. Glaucous Gull (*Larus glaucus*). L. 28; W. 17. 1; B. 2.35. No black in plumage. *Ads.* Primaries white tinted with pearl; bill with red spot at end of lower mandible. *Yng.* Dirty white or gray, mottled with dusky and buffy, chiefly above; primaries white; outer webs brownish.

Range.—Northern hemisphere; breeds in America, from Labrador northward; winters south to middle California, Great Lakes and Long Island.

42.1. Point Barrow Gull (*Larus barrovianus*). Similar to No. 42, but bill through angle not so deep, (.8 as compared with .9 in *glaucus*); primaries more distinctly tipped with white. *Notes.* "*kû-kû-kû, kû-kû-kû, kû-lêē-ōō, kû-lêē-ōō, kû-lêē-ōō, kû-kû-kû, kû-kû-kû*, the *kû-kû* hoarse, the rest a shrill screaming." (Nelson.)

Range.—"Bering Sea and contiguous waters; northeast to Point Barrow, southwest to Japan." (A. O. U.)

43. Iceland Gull (*Larus leucopterus*). L. 25; W. 16; B. 1.75. Similar in color to Nos. 42 and 42.1, but smaller.

Range.—Atlantic; breeds in Greenland; winters south in America to Great Lakes, and rarely, Long Island.

44. Glaucous-winged Gull (*Larus glaucescens*). L. 27. *Ads., summer.* Head, tail, and underparts white; back pearl; primaries *pearl*, tipped with *white*. *Ads., winter.* Head and neck streaked with brownish. *Yng.* Brownish gray, more or less mixed with white, including wings and tail.

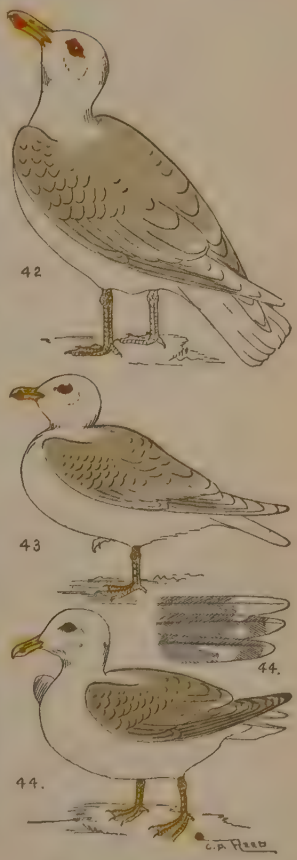
Range.—North Pacific; breeds from British Columbia to Bering Straits; winters south to southern California.

45. Kumlien Gull (*Larus kumlieni*). W. 16.2; B. 1. 75. Similar to No. 43, but primaries with well defined ashy gray spaces; outer primary tipped with white, with ashy gray on outer web and shaft part of inner web; second primary ashy gray on only shaft part of outer web.

Range.—"North Atlantic coast of North America, breeding in Cumberland Gulf; south in winter to the coast of the Middle States." (A. O. U.)

46. Nelson Gull (*Larus nelsoni*). "Wing 18.25, culmen 2.35. *Ads.* In plumage exactly like *L. kumlieni;* depth of bill through angle .80; tarsus 3.05; middle toe (without claw) 2.40." (Ridgway.)

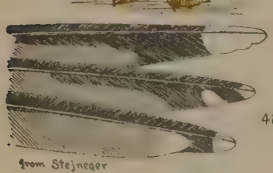
Range.—"Coast of Norton Sound, Alaska." (A. O. U.)



47.

47. Great Black-backed Gull (*Larus marinus*). L. 29. *Ads., summer.* Back and wings slaty black; wing feathers tipped with white. *Ads., winter.* Similar, but head and neck streaked with dusky. *Yng.* Back grayish brown margined with buffy white; rump whiter; primaries black; below white more or less marked with dusky. *Notes.* "A braying *ha-ha-ha,* a deep *keow, keow,* a short barking note, and a long-drawn groan, very loud and decidedly impressive." (Brewster.)

Range.—North Atlantic and northern Europe; breeds in North America from Nova Scotia to Greenland; winters south to Great Lakes and South Carolina.



48.

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48. Slaty-backed Gull (*Larus schistisagus*). L. 26. *Ads., summer.* General appearance of No. 47; back lighter; primaries as figured. *Ads., winter.* Head and neck streaked. *Yng.* Above brown margined with buff and white; primaries brown; tail brown with little or no mottling; below brown.

Range.—"North Pacific, chiefly on the Asiatic side; Herald Island, Arctic Ocean, and Alaskan coast of Bering Sea." (A. O. U.)

49.

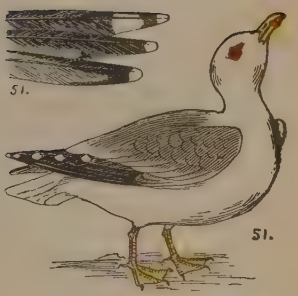
49. Western Gull (*Larus occidentalis*). L. 24. *Ads., summer.* Head, neck, tail, and underparts white; back slaty gray; outer primaries black, a large white spot near tip of first one. *Ads., winter.* Crown and hind neck streaked with brownish. *Yng.* Grayish brown mixed with white; wings and tail fuscous. *Notes. Oo-ēēk, oo-ēēk, oo-ēēk; ca-ca-ca,* and other calls.

Range.—Pacific coast; breeds and winters from Lower California to British Columbia.

57.

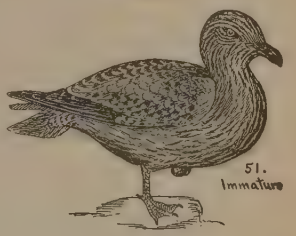
57. Heermann Gull (*Larus heermanni*). L. 17. *Ads., summer.* Bill red; head and throat white, shading into slate above and below; tail blackish, tipped with white; primaries black. *Ads., winter.* Head and neck streaked with grayish brown. *Yng.* Uniform grayish brown.

Range.—Pacific coast of North America; breeds from Mazatlan, Mexico, north to Lower California; occurs regularly north to Vancouver Island; winters south to Panama.



51. Herring Gull (*Larus argentatus*). L. 24. *Ads., summer.* White spaces at end of outer primaries sometimes joined. *Ads., winter.* Similar, but head and neck, streaked with grayish. *Yng.* Above ashy brown, margined and marked with buffy; wings brownish black; tail the same; sometimes margined with buffy; below ashy brown, sometimes lightly barred or streaked with dusky. *Notes. Cack-cack-cack*; *hah, hah, hah,* and other notes.

Range.—Northern hemisphere; breeds in America from Maine, Great Lakes, Minnesota, and British Columbia northward; winters south to Cuba and Lower California.

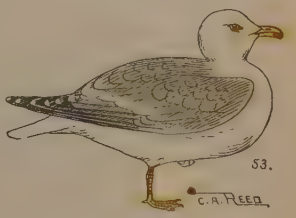


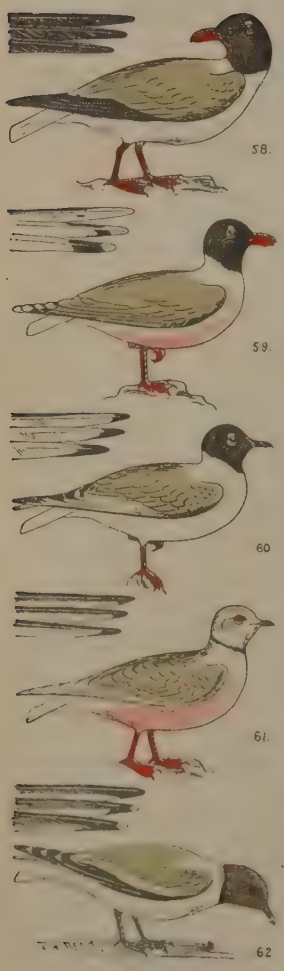
52. Vega Gull (*Larus vegæ*). Similar to No. 51, but back said to be darker; feet yellow.

Range.—"Bering Sea and adjacent waters; south in winter to California and Japan." (A. O. U.)

53. California Gull (*Larus californicus*). L. 20. *Ads.* Similar to No. 54 but larger; a red spot near tip of lower mandible; white spot on outer primary, larger and nearer end. *Yng.* Similar to No. 54 but darker; tail nearly uniform fuscous.

Range.—Western North America; breeds chiefly in interior, from Utah to Lat. 68°, 30'; winters from British Columbia to Mexico.





58. Laughing Gull (*Larus atricilla*). L. 16. *Ads., summer.* Head dark slate; tail white; bill with reddish. *Ads., winter.* Similar, but head and throat white with grayish on nape and behind eyes. *Yng.* Tail grayish with a broad black band; nape and back ashy brown; forehead and under parts white. *Notes.* A nasal *cow-ow*, also *cuk-cuk-cuk*, and a high, long-drawn laugh.

Range.—Eastern North America; breeds from Texas and Florida to Maine and Nova Scotia; rare in interior; winters from South Carolina to northern South America.

59. Franklin Gull (*Larus franklini*). L. 15. *Ads., summer.* Breast with a rosy tinge; outer primaries with wide black spaces near ends, bordered at base and tip with white. *Ads., winter.* "Head mainly white, with [its] sides and back grayish dusky." *Yng.* "Top and sides of head and back grayish brown; quills dusky, tipped with white; tail with subterminal band of dusky; rest of tail, under parts, forehead, and eyelids white." (Bailey.)

Range.—Interior of North America; breeds from Iowa and Minnesota northward to Great Bear Lake; winters from west Gulf States to South America.

60. Bonaparte Gull (*Larus philadelphia*). L. 14. *Ads., summer.* Outer web of outer primaries and tip black; inner web and shaft white; bill black. *Ads., winter.* Similar, but throat and head white, its back grayish. *Yng.* Tail white, tipped with black; outer primary black, inner two-thirds of inner web and space near tip white; rest of plumage much as in young of No. 58.

Range.—North America; breeds in interior from Hudson Bay and Manitoba west to the Yukon; winters from British Columbia and Maine to Lower California and Gulf of Mexico.

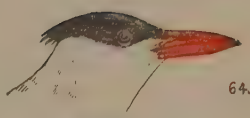
61. Ross Gull (*Rhodostethia rosea*) L. 13.5. Bill small, .7; middle tail feathers longest. *Ads., summer.* White areas tinged with pink; a black collar. *Ads., winter.* No collar; a black spot before eye. *Yng.* Lesser coverts black, margined with whitish; tail white, central feathers tipped with black; back pearl; ear spot and space about eye dusky; crown white, washed with pearl.

Range.—"Arctic regions; south in autumn and winter to Kamchatka, Point Barrow, Alaska and Disco Bay, Greenland." (A. O. U.)

62. Sabine Gull (*Xema sabinii*). L. 14. Tail slightly forked. *Ads., summer.* Head and throat slaty black, margined behind with black; bill black, tipped with yellow; outer primaries black, small tip and inner half of inner web white. *Ads., winter.* Similar, but head and throat white; nape region dusky. *Yng.* Tail white, tipped with black; crown and back ashy brown; forehead and underparts white. *Notes.* 'A single harsh grating note." (Nelson.)

Range.—Arctic regions; breeds in America from St. Michaels, Alaska, and Melville Bay, Greenland, northward; winters south on Atlantic coast, rarely to New York; casually to Texas, and on Pacific coast to Peru.

64. Caspian Tern (*Sterna caspia*). L. 21. T. 6., forked 1.5. Largest of our Terns. *Ads., breeding.* Bill red; cap black; above pearl; below white; *primaries frosty black.* After breeding, crown streaked black and white; bill more orange. *Yng.* Similar to last but wings and tail with blackish. *Notes.* A loud, harsh *"kay-awk" or "key-rak."*



64.

Range.—Cosmopolitan; breeds in North America, locally from Texas to Newfoundland and Great Slave Lake; winters mostly south of United States; three California winter records.

65.

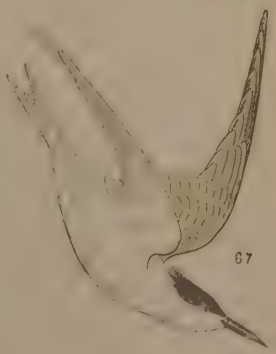
65. Royal Tern (*Sterna maxima*). L. 19; T. 7, forked 3.5; B. 2.5. *Ads., summer. Primaries frosty black, white on inner two-thirds of inner web except at tip, where frosty;* bill orange red; crown black; above pearl; below white. *Ads., winter.* The same, but head white with black streaks. *Yng.* Similar to winter ad. but wings and tail with grayish.

66.

Range.—Middle America; breeds from southern Brazil and Peru to Gulf States, Virginia, and California; wanders north to Great Lakes and Massachusetts; winters from Gulf States and California southward.

66. Elegant Tern (*Sterna elegans*). L. 16.5; B. 2.7. Similar to No. 65, but smaller; bill longer and more slender. *Ads.* Tinged with shell pink below.

Range.—"Pacific coast of America from California to Chili." (A. O. U.)



67.

67. Cabot Tern (*Sterna sandvicensis acuflavida*). L. 16; T. 5.5, forked 2.7. *Ads., breeding.* Bill black, *the tip yellow;* crown black; above pearl; below white; primaries much as in No. 65. After breeding, head white; nape with black streaks. *Yng.* Similar to last but with back and tail with blackish; tip of bill less yellow.

Range.—Tropical America; breeds on east side of Mexico north along Gulf Coast to Florida, and Atlantic coast to South Carolina; wanders to Massachusetts; winters south of United States to West Indies and Central America.

63. Gull-billed Tern (*Gelochelidon nilotica*). L. 14.5; T. 5.5. *Ads., summer. Bill thick, short, black; tail short, forked only 1.5*; crown black; above pearl; below white. *Ads., winter.* Head white, with black patch before and behind eye. *Yng.* Similar, but above edged with buffy; head and neck streaked with grayish. *Notes.* A high, thin, somewhat reedy *tee-tee-tee*, sometimes suggesting a weak-voiced katydid.

Range.—Cosmopolitan; breeds in North America from Mexico to Florida and north to Virginia; wanders north rarely to New Brunswick; winters from southern Texas southward.

73. Aleutian Tern (*Sterna aleutica*). L. 14. T. 6.7, forked 3. *Ads., summer.* Above *and below* pearl gray, browner below; throat white; crown black; *forehead white; line from bill to eye black. Ads., winter.* "With rather more white on forehead." (Cat. B. M.) *Notes.* "A thin, clear, trilling whistle." (Nelson.)

Range.—Alaska from Kadiak to Bering Strait, southwest to Japan.

74. Least Tern (*Sterna antillarum*). L. 9; T. 3.5, forked 1.7. *Ads., summer.* Bill *yellow, black* at tip; forehead *white; a black line* from bill to eye; crown black; above pearl; below white. *Ads., winter.* Crown white; nape black; bill dark; tail shorter. *Yng.* Similar to last, but above with buffy or brownish. *Notes.* "A sharp squeak much like the cry of a very young pig following its mother."

Range.—Western hemisphere; breeds locally from northern South America northward to Massachusetts, Dakota, and southern California; winters south of United States.

76. Bridled Tern (*Sterna anæthetus*). L. 15. *Ads.* Forehead and line *over* eye white; *lores* and crown black; nape whitish; back sooty gray or sooty brown; *outer* tail feathers white, except at tip; inner ones grayish brown. *Notes.* A soft *qua.*

Range.—Tropical regions; north in Atlantic to the Bahamas; casual in Florida.

69. Forster Tern (*Sterna forsteri*). L. 15; T. 7, forked. 4. *Ads., summer. Inner* web of outer tail feather dusky; below *pure white*; bill *orange*, blackish at end; crown black; back pearl. *Ads., winter.* Crown white or grayish; *a large black spot about eyes*; bill black. *Yng.* Similar to winter ad. but above with brownish. *Notes.* A long drawn, deep, reedy *cack* and *tweet-tweet-tweet-tweet.*

Range.—North America; breeds locally north to California, and from Texas along coast to Virginia and in interior to Manitoba; wanders to Massachusetts; winters from southern California and Texas south to Brazil.

70. Common Tern (*Sterna hirundo*). L. 15; T. 5.5, forked, 3.2 *Ads., summer. Outer* web of outer tail feather dusky; below white, *washed with dusky*; bill *red*, blackish at end; crown black; back pearl. *Ads., winter.* Forehead and underparts white; bill black. *Yng.* Similar to last, but above with brownish; tail shorter. *Notes.* A vibrant, purring, *tearrr*, and other calls.

Range.—Northern hemisphere; in America, chiefly east of Plains; breeds locally on coast and in interior from Gulf States to Barren Grounds and Greenland; winters south of United States to Brazil.

71. Arctic Tern (*Sterna paradisæa*). L. 15.5; T. 7.2 forked 4.5. Similar to No. 70, but *summer ad.* with bill *wholly bright red*; tail longer; tarsus shorter, .6 instead of .7. *Notes.* Like *tearr* of No. 70, but shriller, ending in rising inflection, like squeal of a pig. (Brewster.)

Range.—Northern hemisphere; breeds from Massachusetts north to Greenland and northwest to Aleutian Islands and Alaska; winters south to California and Virginia.

72. Roseate Tern (*Sterna dougalli*). L. 15.5; T. 7.5, forked, 5.2. *Ads., summer. Bill black, reddish only at the base; below white tinged with shell pink*; tail wholly white; crown black; back pearl. *Ads., winter.* Forehead with white; no pink below. *Notes.* A reedy *cack.*

Range.—Temperate and tropical regions; breeds in North America on east coast only, from Florida north to Nova Scotia; rare north of Virginia; winters south of United States to Venezuela.

75

77

79

80

75. Sooty Tern (*Sterna fuliginosa*). L. 17. *Ads., summer. Above blackish*, forehead and underparts white; tail black, except outer feathers which are mostly white. *Yng.* Sooty slate; linings of wings white; scapulars, upper tail coverts, and tail feathers tipped with white. *Notes.* A squeaky *quack*, a nasal *ker-wacky-wak*, and other calls.

Range.—"Tropical and subtropical coasts of the globe. In America from Chili to western Mexico and the Carolinas, and casually to New England." (A. O. U.)

77. Black Tern (*Hydrochelidon nigra surinamensis*). L. 10. *Ads., summer.* Head and underparts black; back, wings, and tail slate. *Ads., winter.* Forehead, nape, and underparts *white*; head gray. *Yng.* Similar to last, but above with brownish margins. *Notes.* A sharp *peek*.

Range.—Temperate and tropical America; breeds in interior from California, Kansas, and Illinois to Alaska; irregular migrant on Atlantic coast from New Brunswick southward; winters south of United States to Chili.

79. Noddy (*Anous stolidus*). L. 15. *Ads.* Crown silvery white; rest of plumage *sooty brown. Yng.* Similar, but all sooty brown except white line from bill to eye. *Notes.* A low reedy *cack* increasing to a hoarse, guttural *k-r-r-r-r-r-r-r*.

Range.—Tropical and subtropical regions; in America from Brazil and Chili north to the Gulf and South Atlantic States." (A. O. U.)

80. Black Skimmer (*Rynchops nigra*). L. 18. *Ads. Lower mandible longer than upper;* forehead, underparts, part of secondaries, and tail white; rest of plumage black. *Yng.* Plumage widely margined with buffy. *Notes.* Varied, nasal, penny-trumpet-like; also *ca-you, ca-you*, like a hound's voice.

Range.—North America, chiefly eastern; breeds from southern New Jersey southward; wanders rarely to Nova Scotia; winters from Gulf States to northern South America.

Order III. TUBE-NOSED SWIMMERS.

TUBINARES.

Family 1. ALBATROSSES. Diomedeidæ. 4 species.

Family 2. FULMARS, SHEARWATERS, and PETRELS. Procellariidæ. 26 species, 1 subspecies.

The Albatrosses, of which about ten species are known, are birds of far southern seas, where they nest on isolated islands. After the young are reared, several species migrate northward and are found off our Pacific coast. The largest known species, the Wandering Albatross, which has been made famous by Coleridge's "Rime of the Ancient Mariner," measures from twelve to fourteen feet in expanse of wing, and, like other members of this family, is a tireless ocean wanderer.

In the museum of Brown University, there is a mounted Wandering Albatross, killed off the coast of Chili by Capt. Hiram Luther, December 20, 1847. When captured, a small bottle was found tied around the bird's neck, containing a slip of paper from which it was learned that the bottle had been attached to the bird December 12, 1847, by Capt. Edwards of the New Bedford Whaler, "Euphrates," when about 800 miles off the coast of New Zealand, or about 3,400 miles from the point at which, eight days later, the bird was secured.

The Fulmars, (genus *Fulmarus*), are northern birds and nest in immense numbers on isolated islets, somewhat like certain Gulls.

Comparatively little is known of the nesting places of our Shearwaters, but it is believed that most of them breed on the islands of the South Atlantic and South Pacific, and pass their winter, (our summer) off our coasts.

One of the Petrels, (Wilson Petrel), is known to have this habit. It has been found nesting on Kerguelen Island, in S. Lat. 49° 52', in February, and in May it appears off our coasts for the summer

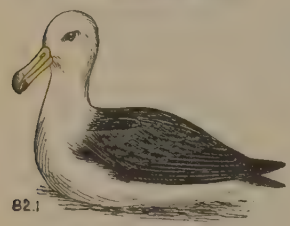
Petrels nest in holes in the ground, laying one white egg. They are never seen near their homes during the day, the bird then on the nest waiting until night to feed, when the one which has been at sea returns to assume its share of the task of incubation. These birds are therefore both diurnal and nocturnal.

81. Black-footed Albatross (*Diomedea nigripes*). L. 32. *Ads.* Sooty brown, lighter below; region about base of bill whitish; upper mandible *broad and rounded at its base. Notes.* A whining groan, uttered when contesting for food. (Turner).

Range.—North Pacific; north to Lat. 52°; south at least to Lower California.

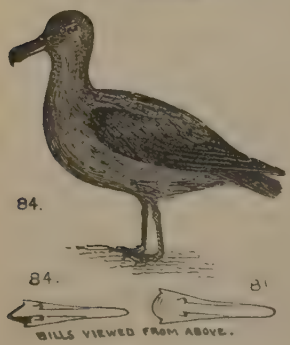
82. Short-tailed Albatross (*Diomedea albatrus*). L. 36. *Ads.* White; the head straw; tail and primaries gray brown; upper mandible broad and rounded at base.

Range.—North Pacific, north to Bering Strait; south, at least, to Lower California.



82.1. Laysan Albatross (*Diomedea immutabilis*). L. 32. *Ads.* Head, neck, rump, upper tail coverts, and whole under surface white; lores next to the eye sooty black; back, wings, and end of the tail dark sooty brown; interscapular region paler; base of the tail whitish. (Cat. B. M.)

Range.—Laysan Island, Pacific Ocean; casual off the coast of Lower California;



83. Yellow-nosed Albatross (*Thalassogeron culminatus*). L. 36. *Ads.* Above slate brown, grayer on head; rump white; below white; neck sometimes grayish; tail gray.

Range—"Indian and southern Pacific Oceans; casual off the coast of Oregon; accidental in the Gulf of St. Lawrence." (A. O. U.)

84. Sooty Albatross (*Phœbetria fuliginosa*). L. 35. *Ads. Sides of lower mandible conspicuously grooved;* entire plumage sooty brown, except a white eye-ring.

Range—"Oceans of southern hemisphere, north to the coast of Oregon." (A. O. U.)

86. Fulmar (*Fulmarus glacialis*). L. 19; W. 13; B. 1.5. *Ads. Light phase.* Head, neck, and under parts white; back, wings, and tail slaty gray. *Dark phase.* Uniform dark slaty gray. *Notes.* Silent.

Range.—North Atlantic; breeds from Lat. 69° northward; winters south to Lat. of Massachusetts, and rarely to Virginia.

86b. Pacific Fulmar (*F. g. glupischa*). Similar to No. 86, but nasal tubes light.

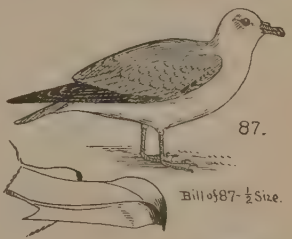
Range.—North Pacific; breeds from Bering Sea north; winters south to Mexico.

86.1. Rodger Fulmar (*Fulmarus rodgersii*). Similar to light phase of No. 86, but back with white feathers; no dark phase.

Range.—"Bering Sea and adjacent parts of North Pacific." (A. O. U.)

87. Slender-billed Fulmar (*Priocella glacialoides*). L. 18.5. *Ads.* Head and underparts white; back and tail pearl; primaries black, *white on inner web.*

Range.—Southern Seas; north on Pacific coast to Washington.

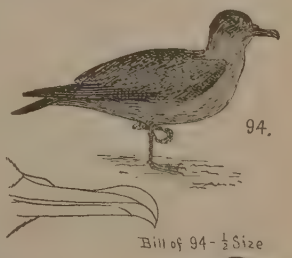


94. Sooty Shearwater (*Puffinus juliginosus*). L. 17. *Ads.* Sooty gray, lighter below.

Range.—"Atlantic Ocean, breeding in the southern hemisphere; a summer visitor off our coast, from South Carolina northward." (A. O. U.)

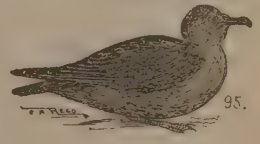
95. Dark-bodied Shearwater (*Puffinus griseus*). L. 17. *Ads.* Above dusky black or brownish, paler below; under wing coverts *white* and dusky; bill black.

Range.—South Pacific; north in summer on the American coast to California.



96.1. Wedge-tailed Shearwater (*Puffinus cuneatus*). L. 17. T. 5.4, pointed. *Ads.* Above brown; below white; sides of neck mottled with gray; middle tail feathers nearly 2. longer than lateral ones. (Cat. B. M.)

Range.—"North Pacific Ocean, from the Hawaiian Islands north to the Bonin Group and Lower California." (A. O. U.)



88.

88. Cory Shearwater (*Puffinus borealis*). L. 21. *Ads.* Above grayish brown; below, including under wing coverts and *under tail coverts, white.*

Range.—North Atlantic; recorded only off the coast from Massachusetts to Long Island.

89.

89. Greater Shearwater (*Puffinus gravis*). L. 20. *Ads.* Above grayish brown or blackish; tips of longer upper tail coverts white; below white; *middle of belly and under tail coverts ashy gray.*

Range.—"Atlantic Ocean, from Cape Horn and Cape of Good Hope north to Arctic Circle." (A. O. U.)

91.

91. Pink-footed Shearwater (*Puffinus creatopus*). L. 19.5. *Ads.* Above dusky gray or brown; below white; sides and lower belly with grayish; longer under tail coverts dusky brown; feet, flesh-color; bill yellowish.

Range.—Pacific Ocean north on the American coast in summer and fall to middle California.

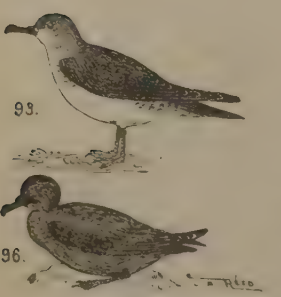
92.

92. Audubon Shearwater (*Puffinus lherminieri*). L. 12. *Ads.* Above black or brownish black; below white; *under tail coverts sooty.*

Range.—Middle Atlantic; breeds in West Indies and Bahamas; wanders north to Long Island.

93. Black-vented Shearwater (*Puffinus opisthomelas.*). L. 15. *Ads.* Above dusky *black*; below white; sides of breast grayish; under tail coverts dusky brown; bill black

Range.—"Pacific Ocean, chiefly southward; coast of Lower California north to Santa Cruz, Cal." (A. O. U.)


93.

96.

93.1. Townsend Shearwater (*Puffinus auricularis*). Similar to No. 93, but bill and feet smaller, B. 1.2; above darker, nearly black; black of head extending below eye. (Townsend.)

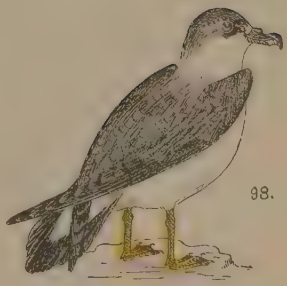
Range.—Pacific Ocean (Clarion Island, Lower California).

96. Slender-billed Shearwater (*Puffinus tenuirostris*). L. 13., bill slender 1.2 *Ads.* "Above dark sooty slate; beneath deep sooty gray, paler on throat where sometimes inclining to whitish." (Ridgw.)

Range.—North Pacific, from Japan and Kotzebue Sound south on the American coast to middle California.

98. Black-capped Petrel (*Æstrelata hasitata*). L. 16. *Ads.* Above sooty brown; back of neck and upper tail coverts *white*; base of tail *white*.

Range.—Tropical Atlantic; irregular in United States (Florida, Virginia, New York, Kentucky, Vermont, and Ontario.)



98.

103. Least Petrel (*Halocyptena microsoma*). L. 5. 7. *Ads.* Sooty blackish brown, lighter below.

Range.—"Coast of Lower California south to Panama." (A. O. U.)

103.

105. Forked-tailed Petrel (*Oceanodroma furcata*). L. 8. 7. *Ads.* Tail forked; bluish gray, wings darker; a blackish space about eye.

Range.—North Pacific; breeds in Aleutian Islands; recorded north to Bering Strait; winters south to California.

105.

105.1. Kaeding Petrel (*Oceanodroma kaedingi*). W. 6. *Ads.* Similar to *O. leucorrhoa*, but much smaller with much less deeply forked tail. (Anthony.)

Range.—Pacific Ocean; (Socorro Islands, Lower California.)

108. Ashy Petrel (*Oceanodroma homochroa*). L. 8. 5. *Ads.* No white on rump; tail forked; sooty black above, browner below; wing coverts grayish.

Range.—"Coast of California; breeds on the Santa Barbara and Farallone Islands." (A. O. U.)

108.

104.

104. Stormy Petrel; Mother Carey's Chicken (*Procellaria pelagica*). L. 5.5. *Ads.* Sooty black, browner below; upper tail coverts white, *tipped with black.*

Range.—North Atlantic; winters south to western Africa and New Brunswick.

106.

106. Leach Petrel; Stormy Petrel (*Oceanodroma leucorhoa*). L. 8., W. 6.2. *Ads.* Tail forked; above sooty brownish black; below browner; *lesser wing coverts grayish brown*; longer upper tail coverts *not* tipped with black. *Notes.* An elfin-like crow of eight notes.

Range.—North Atlantic and North Pacific; breeds from Maine to Greenland and from Farallone to Aleutian Islands; winters south to Virginia and California.

107

106.1. Guadalupe Petrel (*Oceanodroma macrodactyla*). L. 8.4; W. 6.4; T. 3.9, fork 1 in. deep. *Ads.* Similar to *O. leucorhoa*, but with much longer and more deeply forked tail, larger feet, shorter bill, and very broad dusky tips to the upper tail coverts. (Ridgw. in Cat. B. M.)

Range.—Pacific Ocean; (Guadalupe Island, Lower California.)

107. Black Petrel (*Oceanodroma melania.*) L. 9. *Ads.* Sooty black, paler below; wing-coverts grayish, tail forked.

Range.—South Pacific, north to Santa Barbara Islands; breeds on Coronados Islands, southern California.

109.

108.1 Socorro Petrel (*Oceanodroma socorroensis*). W. 5.5. *Ads.* Similar to No. 108, but wings longer; tail shorter and less deeply forked; sides of rump *whitish*; no white on under surface of wing. (Towns.)

Range.—Pacific Ocean; (Socorro Island, southern California.)

109. Wilson Petrel; Stormy Petrel (*Oceanites oceanicus*). L. 7. *Ads.* Webs of feet with yellow patch; tail not forked; longer upper tail coverts not tipped with black. *Notes.* A weak *weet, weet*, and a hoarse chattering *patret-tu-cuk-cuk-tu-tu.* (Wilson.)

Range. Atlantic Ocean; breeds in Southern seas, (Kerguelen Island in February), and migrates north to Newfoundland, spending summer off coast of eastern United States.

Order IV. TOTIPALMATE SWIMMERS.

STEGANOPODES.

Family 1. TROPIC BIRDS. Phaethontidæ. 2 species.

Family 2. GANNETS. Sulidæ. 6 species.

Family 3. DARTERS. Anhingidæ. 1 species.

Family 4. CORMORANTS. Phalacrocoracidæ. 6 species, 5 subspecies.

Family 5. PELICANS. Pelecanidæ. 3 species.

Family 6. MAN-O'-WAR-BIRDS. Fregatidæ. 1 Species.

The members of this Order agree in having all four toes connected by webs, but in other respects they differ widely in structure and, consequently, in habit. The young of all the Steganopodes are born naked, unlike the young of most of the other water birds, which, as a rule, are hatched covered with feathers and can swim or run about soon after birth. The nests of the Steganopodes are, of necessity, therefore, more complex structures than those of birds whose nests are merely incubators and not cradles as well.

Tropic Birds resemble the larger Terns, when in the air, but their wing strokes are more rapid. They usually nest in holes in the face of cliffs, and lay one whitish egg, marked with chocolate.

Gannets are true sea birds, but, as a rule, do not live very far from the land. When breeding, Gannets are usually associated in great numbers. Their nests, as a rule, are placed on the ground or on cliffs, and one or two chalky white eggs are laid. At this season the birds are exceedingly tame and in localties where they have not been much molested, one may walk about among the sitting birds without their taking flight. Gannets are powerful birds on the wing. Their vigorous wing strokes are interrupted at intervals by short sails. They feed on fish which they capture by diving from the air.

The Darters or Anhingas number four species, distributed throughout the tropical parts of the globe, only one species inhabiting America. This is generally called the Snakebird or Water Turkey in Florida, where it is a common species on the more isolated rivers and lakes.

The name Snakebird is derived from the bird's habit of swimming with the body submerged, when the long, sinuous neck, appearing above the water, readily suggests a snake. At other times Snakebirds mount high in the air and sail about, like Hawks, in wide circles. They build a large, well-made nest in a bush or tree, generally over the water, and lay four bluish white, chalky eggs.

Cormorants nest in large colonies, generally on isolated islets, but sometimes in remote swamps. The nests are placed closely together on the ground, in bushes, and less frequently in trees, according to the nature of the bird's haunts.

Cormorants feed on fish which they catch by pursuing them under the water. They dive from the surface of the water like Ducks, or from a low perch, but not from the air, as do the Gannets.

Pelicans nest in colonies, generally on some small island, building their nests on the ground or in bushes, and laying two or three large, white, chalky eggs.

Brown Pelicans secure their food by plunging on it from the air, generally from about twenty feet above the water. The sides of the bill are then bowed outward, the opening widened, forming, with the pouch, an effective net in which fish, twelve and fourteen inches long, are captured.

White Pelicans, on the contrary, feed from the water, scooping up fishes as they swim. At times a flock of these birds may surround a school of small fish in shallow water and drive them shoreward, at the same time actively filling their pouches.

Young Pelicans are fed on fish which they take from the pouch of the parent bird by thrusting their bills and heads well into it and prodding actively about for the food to be found there. Young Cormorants secure their food in a similar manner.

Frigate Birds, of which only two species are known, have a greater expanse of wing in proportion to the weight of their body than any other bird. Their power of flight is consequently unexcelled and they may spend days in the air without tiring. Their feet are as weak as their wings are strong, and are of use only in perching.

The food of Frigate Birds consists chiefly of fish, which they catch from near the surface of the water, or rob from Gulls and Terns by pursuing them, forcing them to disgorge their prey, and catching it ere it reaches the water.

112. Yellow-billed Tropic Bird (*Phaëthon americanus*). L. 30; T. 19. *Ads.* Bill yellow; no bars above; middle tail feathers lengthened. *Yng.* Above barred with black; middle tail feathers not lengthened.

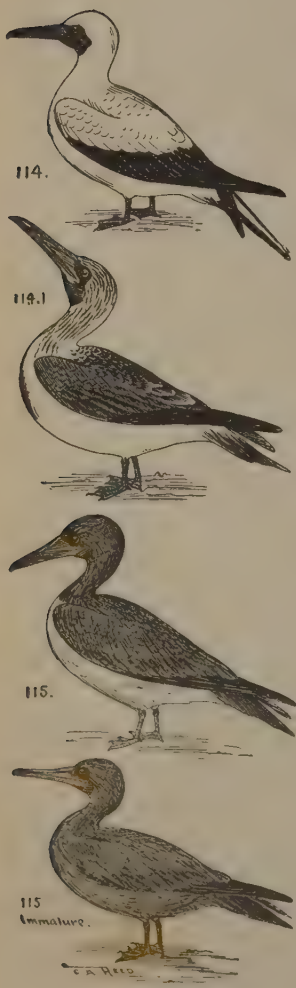
Range.—Tropical coasts; breeds in West Indies, Bahamas and Bermudas; casual in Florida; accidental in western New York and Nova Scotia.

113. Red-billed Tropic Bird (*Phaëthon æthereus*). L. 30; T. 20. *Ads.* Bill red; above barred with black; long middle tail feathers pure white.

Range.—Coasts of tropical America, north on the Pacific coast to Cape Colnett, Lower California; accidental on the Newfoundland Banks. Breeds on San Pedro Martir and other Islands in the Gulf of California." (A. O. U.)

117. Gannet (*Sula bassana*). L. 35. *Ads.* White; head and neck tinged with straw; primaries blackish. *Yng.* Grayish brown with white spots. *Notes.* A harsh *gor-r-r-rok.*

Range.—North Atlantic; breeds, in America, only on Bird Rock and Bonaventure Islands, Gulf of St. Lawrence; winters off the coast, south to Florida.



114. Blue-faced Booby (*Sula cyanops*). L. 28. *Ads.* Body and lesser wing coverts white; central tail feathers whitish, others dark brown. *Yng.* Above plain dark grayish brown with some grayish streaks; below white; flanks streaked with grayish.

Range.—Tropical seas; north in America to Lower California and Bahamas; casual in southern Florida.

114.1. Blue-footed Booby (*Sula nebouxii*). L. 33. *Ads.* Head, neck, and underparts white, the first two streaked with grayish; back dusky brownish, tipped with whitish; legs and feet bright blue. (Goss.)

Range:—Pacific coast of America, from Gulf of California to Galapagos and Chili. (Cat. B. M.)

115. Booby (*Sula sula*). L. 30. *Ads.* Breast and belly white; bill and feet yellow. *Yng.* Entirely brownish, lighter below; bill blackish; feet yellow. *Notes.* A harsh, guttural *bork, bork.* (Audubon).

Range.—"Atlantic coasts of tropical and subtropical America, north to Georgia. Also, West Pacific and Indian Oceans." (A. O. U.) Accidental on Long Island. No United States breeding record.

115.1. Brewster Booby (*Sula brewsteri*). L. 30. *Ads.* Similar to No. 115, but head and neck paler, bill blue, feet greenish.

Range.—"Coasts and Islands of the eastern south Pacific Ocean, north to Lower California; breeding as far north as Georges Island at the head of the Gulf of California." (A. O. U.)

116. Red-footed Booby (*Sula piscator*). L. 28. Feet *reddish. Ads.* White; head and nape straw color; primaries *hoary grayish brown*; tail *white. Yng.* Above sooty brown; head, neck, and lower parts light smoky gray. (Ridgw.)

Range.—Tropical seas, except Pacific coast of America (Cat. B. M.); north in Atlantic to Bahamas and, rarely, southern Florida.

119. Cormorant (*Phalacrocorax carbo*). L. 36; T. 7.5, of 14 feathers. *Ads.* Chin and sides of throat whitish; back glossy brownish, *distinctly* margined with black; below uniform shining black. *Breeding plumage.* Head and throat with white plumes; a white patch on flanks. *Yng. Belly white*; above olive grayish brown, margined with black; throat *whitish*; neck brownish.

Range.—North Atlantic; breeds from Nova Scotia to Greenland; winters south to Carolinas.

120. Double-crested Cormorant (*Phalacrocorax dilophus*). L. 30; W. 12.5; T. 6.2, of 12 feathers. *Ads.* Back brownish with distinct black margins; below shining black. *Breeding plumage.* With tufts on either side of head black, sometimes mixed with white; throat pouch orange. *Yng.* Back browner; head, neck, and lower belly brown; breast whitish.

Range.—Eastern North America; breeds locally from Bay of Fundy, Minnesota, North Dakota, northward; west to Assiniboia; winters from southern Illinois and Virginia southward.

120a. Florida Cormorant (*P. d. floridanus*). Similar to No. 120, but blacker and smaller. L. 25.

Range.—South Atlantic and Gulf States; breeds north to North Carolina and southern Illinois.

120b. White-crested Cormorant (*P. d. cincinatus*). Similar to No. 120, but larger, L. 36; nuptial crests *white*.

Range.—Pacific coasts; breeds in Alaska; winters south to California.

120c. Farallone Cormorant (*P. d. albociliatus*). Similar to 120b., but smaller, L. 28.

Range.—Breeds on California coast and in interior, south to Socorro Island. (Ridgw.)

121. Mexican Cormorant (*Phalacrocorax mexicanus*). L. 25. W. 10. *Ads.* Narrow border at base of pouch white. *Breeding plumage.* Neck with white plumes. *Yng.* Head and hindneck brownish; back grayish, margined with black; throat, foreneck and breast brownish white; belly black.

Range.—Breeds in West Indies and Central America to west Gulf States; north in summer rarely to Kansas and southern Illinois.

122. Brandt Cormorant *(Phalacrocorax penicillatus).* L. 35; T. 6. Chin and sides of throat *buffy white or brownish. Ads.* Above blue black, *faintly* margined with black; below green black. *Breeding plumage.* With white, hairlike plumes from back and neck; no white on flanks; throat pouch blue. *Yng.* Above dark brown; throat and belly whitish; breast and sides brown.

Range.—Pacific coast from Cape St. Lucas to Washington; resident.

123. Pelagic Cormorant *(Phalacrocorax pelagicus).* L. 28; W. 10; T. 6.2. Forehead *feathered*; back feathers *not* margined. *Ads.* Above glossy green and purplish black; below bottle green. *Breeding plumage.* With white plumes on neck and rump and white patches on flanks; nape and forehead, crested. *Yng.* Above greenish dusky brown, less green below.

Range.—"Aleutian and Kuril Islands, and Kamchatka, south to Japan." (A. O. U.)

123a. Violet-green Cormorant *(P. p. robustus).* Similar to No. 123, but larger; bill stouter, W. 10.8.

Range.—Coast of Alaska, from Norton Sound south to Washington." (A. O. U.)

123b. Baird Cormorant *(P. p. resplendens).* Similar to No. 123, but smaller; bill slenderer; W. 9.5. *Notes.* A croaking, guttural note.

Range.—Pacific coast from Washington south to Mazatlan, Mexico.

124. Red-faced Cormorant *(Phalacrocorax urile).* L. 34. *Forehead* as well as lores bare. *Ads.* Above green and purple; head and neck blue black; belly green. *Breeding plumage.* With forehead and nape crests and white patches on flanks. *Notes.* "A low, droning croak." (Nelson.)

Range.—"Pribilof, Aleutian, and Kuril Islands, and coast of Kamchatka. South in winter to northern Japan." (A. O. U.)

118. Anhinga; Snakebird; Water Turkey (*Anhinga anhinga*). L. 36. *Ad.* ♂. Black; grayish head and neck plumes which, in winter, are absent. *Ad.* ♀. Resembles male but whole head, neck, and breast brownish. *Yng.* Similar to ♀ but black parts duller. *Notes.* A rasping, clattering croak, uttered when fighting or in coming to the nest.

Range.—Tropical and subtropical America; breeds north to southern Illinois and South Carolina; winters from Gulf States southward.

125. American White Pelican (*Pelecanus erythrorhynchos*). L. 60. *Ads.* White; primaries black; bill in breeding season with a knob. *Yng.* With crown brownish.

Range:—North America; breeds in interior from eastern California, Utah, Yellowstone Park, Minnesota (?) northward to Lat. 61°; winters from Gulf States and southern California, south to Central America.

126. Brown Pelican (*Pelecanus occidentalis*). L. 50; W. 19.5. *Ads.* Pouch greenish; head white, rarely yellowish; neck brown. In fall, no brown on neck. *Yng.* Brownish gray, white below. *Notes.* Adults as a rule silent; young before flying, very noisy.

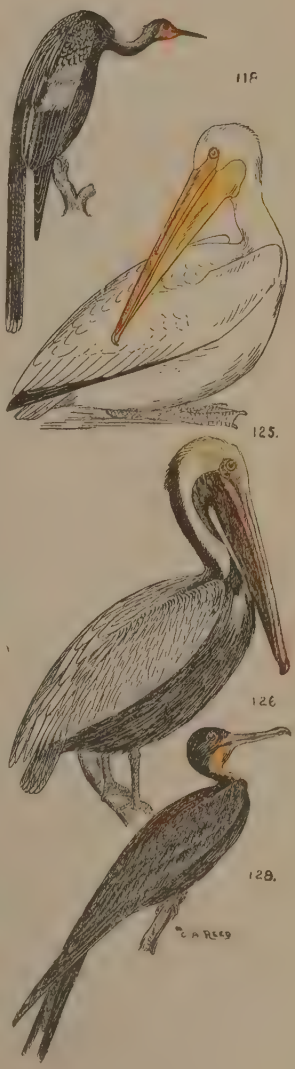
Range:—Atlantic and Gulf coast of tropical and subtropical America; breeds from northern South America to South Carolina; has strayed to Illinois and Nova Scotia; winters from Gulf States southward.

127. California Brown Pelican (*Pelecanus californicus*). Similar to No. 126, but larger. L. 54; W. 21; pouch in breeding season, red.

Range.—Pacific coast from Galapagos north to British Columbia; breeds north only to Los Coronados Islands.

128. Man-o'-War Bird; Frigate Bird (*Fregata aquila*). L. 40. *Ad.* ♂. Black, glossy above; pouch "scarlet or orange." *Ad.* ♀. Browner; breast and belly white. *Yng.* Similar to ♀, but head and neck white. *Notes.* Usually silent; rarely a croaking note.

Range:—Tropical and subtropical coasts; in America north to Florida, Texas, and southern California; casually to Kansas, Ohio and Nova Scotia; winters from southern Florida and Lower California southward.



ORDER V. DUCKS, GEESE, AND SWANS.

ANSERES.

Family 1. DUCKS, GEESE, and SWANS. ANATIDÆ. 49 species, 6 subspecies.

The Anatidæ of North America are placed in five well-marked subfamilies, the Mergansers (*Merginæ*), River Ducks (*Anatinæ*), Sea Ducks (*Fuligulinæ*), Geese (*Anserinæ*), and Swans (*Cygninæ*).

The Mergansers, Saw-bills, or Shelldrakes are fish-eating Ducks and their rounded bills, set with toothlike projections along the sides, are of evident use to them in holding their prey.

The River Ducks include such well-known species as the Mallard, Black Duck, and Widgeon. They differ from the Bay or Sea Ducks in not having a well-developed web or flap on the hind-toe. As a rule they feed in shallow water by tipping, standing on their heads, as it were, while reaching the bottom for food.

The Bay or Sea Ducks have the hind-toe webbed. They feed, as a rule, in deeper water than the River Ducks, sometimes descending to the bottom in water over one hundred feet deep. During the winter they gather in flocks often of several thousand individuals, and frequent the larger bodies of water.

With both the River and Bay Ducks the sides of the broad, flat bill are set with gutters which serve as strainers, retaining the mollusks, seeds and roots of aquatic plants on which these Ducks feed, while the mud or water taken in with the food is forced out the sides of the bill as it closes.

Geese are more terrestrial than Ducks and often visit the land to nip the grass. This is particularly true in the west where large flocks of Geese, especially Snow Geese, may be seen feeding on the prairies. On the water they feed over shallows by tipping and probing the bottoms.

Swans also feed from the surface of the water either by simply immersing the head and neck or by half submerging the body, when, with the tail pointed to the zenith, the length of their reach is greatly increased.

In spite of their comparatively short wings the large muscles attached to them give to the Anatidæ great power of flight. Not only do they make extended journeys, when migrating, without a rest, but they attain a speed which is surpassed by but few birds. Some of the smaller species, when alarmed, doubtless flying at the rate of one hundred miles an hour.

In common with other diving water birds the Ducks, when molting, lose most of their wing feathers all at once, and for a time are therefore unable to fly. During this comparatively helpless period the brightly colored males assume in part the plumage of the females and

are thereby rendered less conspicuous. With the return of the power of flight, however, they regain their distinctive, male plumage, which is usually brighter than that of the female. With our Geese and Swans there is no sexual difference in color.

Most of our Ducks and Geese breed in the north, some within the Arctic Circle, and winter from the southern limit of frozen water southward. The American Merganser, Hooded Merganser, Wood Duck, Buffle-head, Golden-Eyes, Tree Ducks, and possibly Harlequin Duck nest in hollow trees, at times some distance from the water. The young of the American Golden-eye and of the Wood Duck have been seen to reach the water by jumping from the nest-hole and fluttering down in response to the calls of the parent below. It is said that they are also brought down in the bill of the old bird, but this statement apparently lacks confirmation.

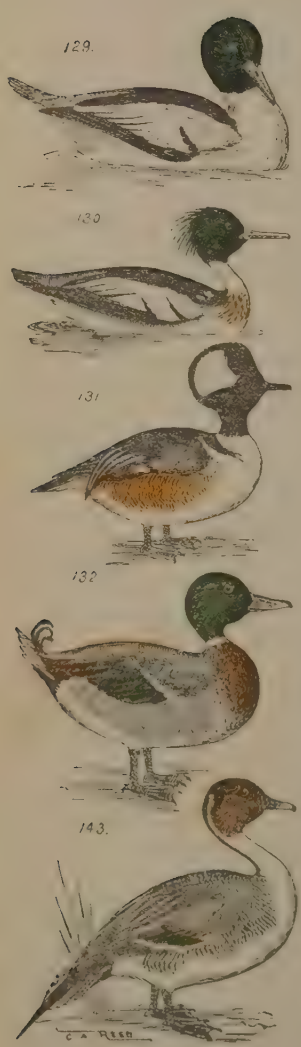
The remaining species of our Ducks, Geese, and Swans, nest as a rule, on the ground generally near water. From five to fifteen and, in the case of the Fulvous Tree Duck, possibly as many as thirty eggs are laid. In color they vary from white to buffy and pale olive and are always uniformly colored. Incubation is performed by the female alone. The males at this period among most Ducks deserting their mate to undergo the partial molt before mentioned. While incubating the females surround their nest with soft down plucked from their bodies and when leaving the nest to feed, this down is drawn over the eggs with the double object, doubtless, of concealing them and of keeping them warm.

With Eider Ducks this down constitutes the larger part of, if not the entire nest. Saunders states that in Iceland the down in each nest weighs about one-sixth of a pound. This is gathered by the natives, who, however, are careful to afford the sitting bird an opportunity to raise her brood without further molestation.

The collection of Eider down thus furnishes an admirable illustration of proper economic relations between man and birds. The down is an important source of income to the natives of the comparatively barren, northern countries in which the Eiders nest. So long as man can remember it has been gathered annually. Still the Ducks continue to return in numbers year after year to the same region, perhaps the exact spot in which they nested the year before.

Less intelligent methods would perhaps rob the bird of its second, as well as of its first nest and, unable to reproduce its kind, the species would become extinct within a comparatively short period.

The evils which would follow such a course are, however, thoroughly understood. The Ducks, in the first place, are encouraged in every way. It is said that should one walk into a peasant's cabin and preempt his cot as a nesting-site, the peasant would gladly give up his bed to so valuable a visitor.



129. American Merganser (*Merganser americanus*). L. 25; B. from nostril, 1.5; nostril midway between eye and tip of bill. *Ad.* ♂. No band of streaks on breast; no crest. *Ad.* ♀. and *Yng. Chin white*; crown and throat reddish brown; rest of underparts and speculum white; above and tail ashy.

Range.—North America; breeds from New Brunswick, rarely mountains of Pennsylvania, Minnesota, and mountains of Colorado and California northward; winters from Maine and British Columbia south to South Carolina and southern California.

130. Red-breasted Merganser (*Merganser serrator*). L. 22; B. from nostril, 1.8; nostril nearer to eye than to tip of bill. *Ad.* ♂. Breast with a broad cinnamon band streaked with black; head feathers lengthened. *Ad.* ♀ *and Yng.* Crown grayish brown, washed with rusty. Chin and throat paler; rest of underparts and speculum white; back and tail ashy. *Notes.* When alarmed, several low, guttural croaks. (Elliot.)

Range.—Northern hemisphere; breeds, in America, from New Brunswick and northern Illinois north to Greenland and Alaska; winters from southern breeding limits, south to Cuba and Lower California.

131. Hooded Merganser (*Lophodytes cucullatus*). L. 17.5. *Ad.* ♂. A large, circular black and white crest. *Ad.* ♀ *Yng.* A small cinnamon crest, head, neck and breast grayish brown; back, blackish; belly white. *Notes.* "A hoarse croak, like a small edition of that of the Red-breasted Merganser." (Elliot.)

Range.—North America from Cuba and Lower California north to Labrador and Alaska; breeds locally throughout its range, chiefly in interior of British America; winters from British Columbia, Illinois, and Massachusetts southward.

132. Mallard (*Anas boschas*). L. 23. Speculum (patch in wing) purple bordered by black and *white*; under surface of wing pure white. *Ad.* ♂. Head green; breast chestnut, a white neck-ring. *Ad.* ♀. Above blackish and buffy, below rusty buff mottled with dusky grayish brown. *Notes.* The familiar *quack* of the barnyard Duck.

Range.—Northern hemisphere; breeds, in America, from Labrador, Indiana, Iowa, and California north to Greenland and Alaska; winters from British Columbia, Kansas, and New Jersey to Central America and West Indies.

143. Pintail (*Dafila acuta*). L. ♂, 28; ♀, 22. *Ad.* ♂. Central tail feathers black, 7.5 long, pointed. *Ad.* ♀. Tail 3.5,; feathers *sharply pointed*; brownish black, with buff bars; under wing-coverts *dusky* and *buff*; back blackish with *internal* buff loops. Notes. A loud *quack*, less sonorous than that of the Mallard; a low mellow whistle, and a harsh rolling note. (Nelson.)

Range.—Northern hemisphere; breeds, in America, from New Brunswick, Iowa, Illinois, and British Columbia northward; winters from British Columbia, Illinois, and Virginia, south to Central America and West Indies.

133. Black Duck (*Anas obscura*). L. 22. *Ads.* Speculum bluish purple tipped with *black*; no white in wing; lining of wing white and *dusky*; crown *without* paler margins; throat, usually, without markings; legs "olivaceous brown" bill "greenish black, dusky olive, or olive-green." *Notes.* A *quack* resembling that of the Mallard.

Range.—Eastern North America; chiefly east of Mississippi; breeds locally from New Jersey and Illinois north to Labrador and Hudson Bay; winters from Maine to West Indies.

133a. Red-legged Black Duck (*A. o. rubripes*). Similar to No. 133 but larger; crown edged with buff or gray; throat spotted; legs red; bill yellow.

Range.—Summer range not definitely known, but breeding specimens have been taken in northern Labrador, James Bay, and west shore of Hudson Bay; in winter south to Virginia and Arkansas.

134. Florida Duck (*Anas fulvigula*). L. 20. *Ads.* Throat and front of neck plain buff, usually unmarked; speculum sometimes tipped with white; belly rusty buff; broadly *streaked* with black. *Notes.* A *quack* similar to that of No. 133.

Range.—Florida to coast of Louisiana; resident.

134a. Mottled Duck (*A. f. maculosa*). Similar to No. 134, but underparts *mottled* with black the markings being *rounder*.

Range.—Eastern Texas; breeds (at least) from Corpus Christi north to Kansas; winters on west Gulf Coast.

135. Gadwall (*Chaulelasmus streperus*). L. 19.5. Under wing coverts and axillars *pure white*. *Ad.* ♂. Wing-coverts chestnut; breast *ringed* with white. *Ad.* ♀. Head and throat as in ♂, back fuscous and buffy; breast and *sides* ochraceous thickly spotted with blackish; speculum ashy gray and white. *Notes.* A *quack* like that of the Mallard but shriller and more often repeated.

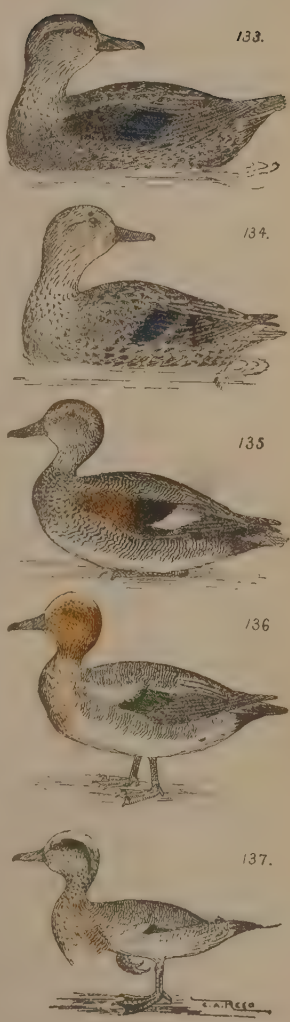
Range.—Northern hemisphere; in America, breeds in the interior from Kansas and California north to Manitoba and Assiniboia; winters from Maryland to Florida, rare in northeastern Atlantic States.

136. Widgeon (*Mareca penelope*). L. 18.5. *Ad.* ♂. Head and neck reddish brown; crown buff; sides with wavy black and white lines. *Ad.* ♀. Head and throat *rusty*, finely streaked and barred with black; breast and sides rusty; speculum blackish. *Notes.* Of male, a shrill, whistling *whee-you*; of female, a low, purring growl. (Saunders.)

Range.—Northern hemisphere; breeds in America, only in the Aleutian Islands; casual in migrations and in winter in California and on Atlantic coast from North Carolina to Greenland.

137. Baldpate (*Mareca americana*). L. 19. No rusty on head. *Ad.* ♂. Under tail-coverts black; streak from eye to nape glossy green. *Ad.* ♀. Head and throat *whitish* finely marked with black; breast and sides rusty washed with grayish. *Notes.* "A low, soft whistle." (Elliot.)

Range.—North America; breeds in the interior from Minnesota and British Columbia north to Alaska; winters from British Columbia and Virginia south to South America; only a migrant on northeast Atlantic coast to Labrador.



139.

139. Green-winged Teal (*Nettion carolinensis*). L. 14.5. Wing-coverts gray, tipped with buff or white. *Ad.* ♂. A white crescent in front of wing; speculum (wing-patch) green bordered by black tipped with white. *Ad.* ♀. Wings as in ♂; throat and sides of neck white, finely spotted with black; breast and sides washed with rusty, marked with black. *Notes.* A "peculiar chirping almost a twittering" as they fly. (Seton.)

Range.—North America; breeds from New Brunswick, Minnesota, and British Columbia north to Greenland and Alaska; winters from Virginia, Kansas, and British Columbia south to Central America and West Indies.

140.

140. Blue-winged Teal (*Querquedula discors*). Wing-coverts blue. *Ad.* ♂. Cheek patch white. *Ad.* ♀. Resembles ♀ of No. 139, but wing-coverts blue; speculum greenish brown not distinctly tipped with white. L. 16.

Range.—North America; chiefly east of Rockies; breeds from New Brunswick, Kansas, southern Illinois and northern Ohio, north to Alaska, mainly in interior; winters from Virginia and Lower Mississippi Valley to northern South America, California, and Lower California.

141.

141. Cinnamon Teal (*Querquedula cyanoptera*). *Ad.* ♂. Head and neck, breast and sides reddish brown. *Ad.* ♀. Resembles ♀ of No. 140, but the underparts, *including throat,* are usually suffused with rusty; the throat often being blackish or speckled with dusky. *Notes.* A rather thin, nasal *quack.* L. 16.

Range.—Western North America from British Columbia south to South America, east to Rockies and southern Texas; rarely to Florida.

142.

142. Shoveller (*Spatula clypeata*). L. 20. Bill much broader at tip than at base. *Ad.* ♂. Belly chestnut; breast around to back white. *Ad.* ♀. Wing-coverts blue; back conspicuously margined with buff. *Notes.* "Occasionally a few feeble quacks." (Elliot.)

Range.—Northern hemisphere; in America chiefly in interior; breeds locally from Texas, and regularly from Minnesota and British Columbia north to Alaska and Barren Grounds; winters from British Columbia, Illinois, and Maryland south to northern South America.

144

144. Wood Duck (*Aix sponsa*). L. 18.5. *Ad.* ♂. Head crested; green, blue, and purple with white stripes. *Ad.* ♀. A white streak through and behind eye; crown glossy purplish brown; back olive-brown glossed with greenish. *Notes.* A frightened, plaintive, *oo-eek.*

Range.—North America; breeds locally from Florida to Labrador and British Columbia, winters from British Columbia, southern Illinois, and southern New Jersey, south to southern California and Cuba.

146. Redhead (*Aythya americana*). L. 19. *Ad.* ♂. Head and *upper* neck entirely bright reddish brown. *Ad.* ♀. Throat white; back grayish brown without fine bars; speculum gray. *Notes.* "A hoarse guttural rolling sound." (Elliot.)

Range.—North America; breeds chiefly in interior from Maine, Minnesota, and California north to Labrador and British Columbia; winters from British Columbia and Maryland south to Lower California and West Indies.

147. Canvas-back (*Aythya vallisneria*). L. 21. *Ad.* ♂. Head and *whole* neck *dull* reddish brown. *Ad.* ♀. Head and neck *rusty* grayish brown; back grayish brown, *finely barred with black and white. Notes.* "A harsh guttural croak." (Elliot.)

Range.—North America; breeds only in interior from Minnesota and Oregon north to Alaska and the Barren Grounds; winters from British Columbia and Maryland south to southern California, Mexico and West Indies.

148. American Scaup Duck (*Aythya marila*). L. ♂, 18.5; ♀, 17.5. *Ad.* ♂. Head glossed with greenish; sides without distinct black bars. *Ad.* ♀. Feathers about base of bill white; breast and back rusty grayish brown; speculum white. *Notes.* "Similar to the guttural sound made by the Canvas-back, Redhead and other diving Ducks." (Elliot.)

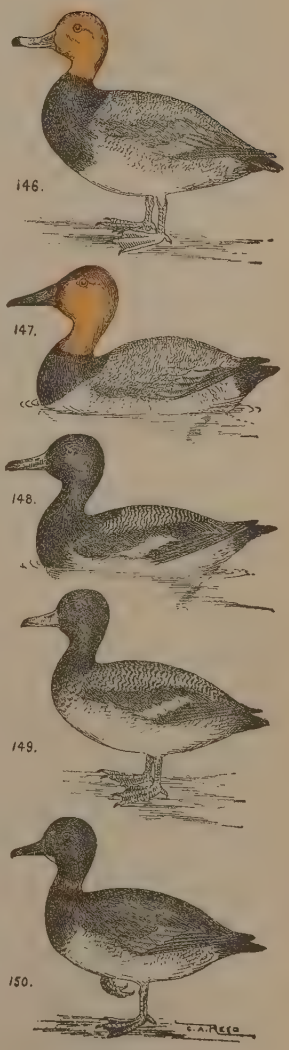
Range.—Northern parts of northern hemisphere; in America, breeds in the interior rarely from Minnesota, and regularly from North Dakota northward; winters from Long Island to northern South America.

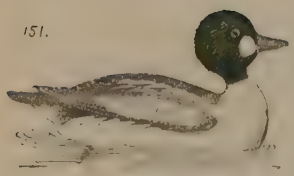
149. Lesser Scaup Duck (*Aythya affinis*). L. ♂ 17; ♀, 16.5. *Ad.* ♂. Head glossed with purplish; sides with distinct black bars. *Ad.* ♀. Similar to ♀ of No. 148, but smaller.

Range.—North America; breeds only in interior from Iowa rarely, North Dakota commonly, and British Columbia, north to Barren Grounds; winters from British Columbia and Virginia south to Guatemala and West Indies.

150. Ring-necked Duck (*Aythya collaris*). L. 16.5. *Ad.* ♂. A chestnut neck-ring; chin *white;* back *black;* speculum *gray*. *Ad.* ♀. Feathers about sides of base of bill and throat white, back and breast *rusty* grayish brown; speculum gray. Resembles ♀ of No. 146, but is smaller and rustier.

Range.—North America; breeding only in the interior from Minnesota northward; winters from Maryland and British Columbia south to Guatemala and West Indies; rare on Atlantic coast north of Maryland.





151. American Golden-eye (*Clangula clangula americana*). L. 20. *Ad.* ♂. Head *greenish*; white patch at base of bill *circular*. *Ad.* ♀. Head and throat brown; breast and back gray, a white throat-ring; belly and speculum white. *Notes.* Rarely a low croak; a high whistling sound produced by wings in flight.

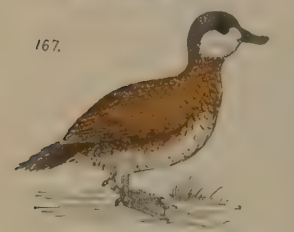
Range.—North America; breeds from Maine, northern Minnesota, and Alberta, north to Arctic Regions; winters from southern Alaska, the Great Lakes and Maine, south to Mexico and Cuba.

152. Barrow Golden-eye (*Clangula islandica*). L. 20. *Ad.* ♂. Head *purplish blue*; white patch at base of bill *twice as high as wide*. *Ad.* ♀. Resembles ♀ of No. 151. *Notes.* A high whistling made by wings in flight, probably also a low croaking as in No. 151.

Range.—Northern North America; breeds from Gulf of St. Lawrence, and mountains of Colorado north to southern Greenland; winters south to Virginia, Illinois, and California.

153. Buffle-head (*Charitonetta albeola*). L. 14.7. *Ad.* ♂. Head blue, purple, and green; a white band from eye to eye across nape. *Ad.* ♀. A whitish patch on either side of head; throat and upper parts grayish brown; belly and speculum white. *Notes.* A single guttural note like a small edition of the Canvas-back's roll. (Elliot.)

Range.—North America; breeds from Maine, Iowa, and British Columbia northward; winters from southern limit of breeding range to West Indies and Mexico.



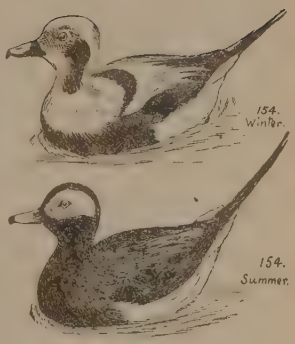
167. Ruddy Duck (*Erismatura jamaicensis*). L. 15. Tail-feathers narrow and stiff; bill short (1.5) and broad. *Ad.* ♂. Cheeks white, cap black, back reddish brown. *Ad.* ♀. A whitish streak through dusky cheeks; back grayish brown with fine buffy bars; belly silvery whitish. *Yng.* ♂. Similar, but cheeks all white or whitish.

Range.—Western hemisphere from northern South America to Hudson Bay; breeds locally throughout its range, but chiefly northward; winters from New Jersey, southern Illinois and California southward.

168. Masked Duck (*Nomonyx dominicus*). L. 14. Tail-feathers long, (4.5) narrow, stiff and pointed. *Ad.* ♂. Front of head black; behind it reddish brown all around; white in wing. *Ad.* ♀. A brownish streak through eye: buffy streaks above and below it: back blackish regularly *barred* with buff; below washed with rusty.

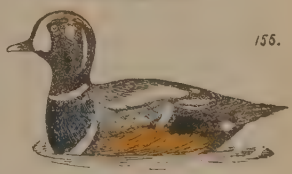
Range—Tropical America north to Lower Rio Grande; accidental in Wisconsin, Lake Champlain, and Massachusetts.

154. Old-squaw (*Harelda hyemalis*). L. ♂, 21; ♀, 16; T. ♂, 8; ♀, 2.5. No colored speculum. *Ad.* ♂. Central tail-feathers much lengthened; in winter, crown, nape, throat, and neck all around white. In summer, black, with rusty markings on back. *Ad.* ♀. winter. Cheeks, neck all around, and underparts white; breast and sides of neck dusky. In summer, crown, cheeks and nape blackish, throat and breast dusky; a whitish patch back of eye. *Notes.* In spring, a rich, musical *a-leedle-a*, frequently repeated in deep, reed-like tones. (Nelson.) Also "*o-onc-o-onc-ough-egh-ough-egh.*" (Mackay.)

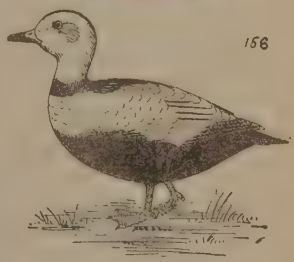


Range.—Northern hemisphere; breeds from northern Labrador and Aleutian Islands north to Arctic Ocean; winters south to Virginia, Upper Mississippi Valley, and California, "rarely to Florida and Texas."

155. Harlequin Duck (*Histrionicus histrionicus*). L. 17. *Ad.* ♂. Back and breast slaty blue; head darker. *Ad.* ♀. Front half of cheeks and spot over ears whitish; above blackish brown; below dusky and whitish. *Notes.* "A confusion of low gabbling and chattering notes." (Nelson.)



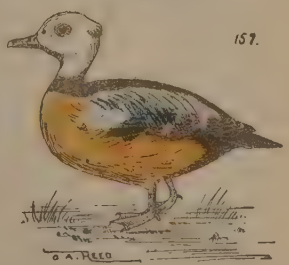
Range.—"Northern North America, breeding from Newfoundland, the northern Rocky Mountains, and the Sierra Nevadas (latitude 38°), northward; south in winter to the Middle States and California; eastern Asia, Iceland." (A. O. U.)



156. Labrador Duck (*Camptolaimus labradorius*). L. 20. *Ad.* ♂. Primaries blackish; rest of wing white. *Ad.* ♀. Ashy gray: speculum white. *Yng.* ♂. Like ♀, but throat and ends of greater wing-coverts white.

Range.—Formerly North Atlantic coast; bred from Labrador northward; wintered south to New Jersey; believed to be extinct; last records, Grand Menan, New Brunswick, 1871; Long Island, 1875.

157. Steller Eider (*Eniconetta stelleri*). L. 18. *Ad.* ♂. Throat and neck black nearly divided by a white ring; top and sides of head white, forehead and nape greenish; breast chestnut. *Ad.* ♀. Above and below black and rusty; speculum purple bordered with white; tail feathers pointed.



Range.—"Arctic and subarctic coasts of the northern hemisphere, Aleutian Islands, east to Unalaska and Kadiak; Kenai Peninsula." (A. O. U.)

158. Spectacled Eider (*Arctonetta fischeri*). L. 21. *Ad.* ♂. Front of head plush-like, cushiony pads around eyes; above largely white; breast slaty black; belly black.

Range.—"Alaskan coast of Bering Sea and north to Point Barrow." (A. O. U.)

159. Greenland Eider (*Somateria mollissima borealis*). L. 23. Feathers on sides of bill reaching to nostrils, bare spaces on either side of feathers on culmen *pointed* at base (posteriorly.) *Ad.* ♂. Crown black with a white wedge. *Ad.* ♀. Brownish black above margined with rusty and buff; below dusky finely margined with buff. *Yng.* ♂. Similar to ♀ but more buffy. *Notes.* "A sort of cooing sound" in the breeding season. (Elliot.) A raucous, moaning, *'ha ho, 'ha ho;* female's like that of Mallard. (Brunnich.)

Range.—Northeastern North America; breeds from Labrador to Greenland; winters south to Massachusetts.

160. American Eider (*Somateria dresseri*). L. 23. Similar in color to No. 159, but bare spaces on either side of feathers of culmen *rounded* at the base (posteriorly).

Range.—Northeastern North America; breeds from Isle au Haut, Maine, to Labrador; winters south to New Jersey and Great Lakes.

161. Pacific Eider (*Somateria v-nigra*). Similar to No. 159, but *Ad.* ♂ with a black **V** on throat; sides of bill more broadly feathered, distance from end of feathers to base of bare space on culmen less than distance from same place to end of bill. *Notes.* "A low guttural note." (Nelson.)

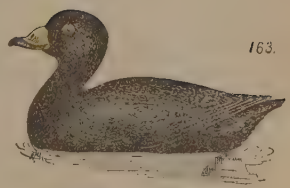
Range.—North Pacific from Aleutian Islands north to Arctic Ocean east to Great Slave Lake.

162. King Eider (*Somateria spectabilis*). L. 23. Feathers at side of bill *not* reaching nostril. *Ad.* ♂. White patch on either side of rump; crown ashy blue. *Ad.* ♀ and *Yng.* Resembling same plumages of No. 159 and No. 160.

Range.—Northern hemisphere; breeds from Labrador and St. Michaels, Alaska north to Greenland and Arctic Ocean; winters south to New Jersey (rarely Ga.), and Great Lakes; one California record.

163. American Scoter (*Oidemia americana*). L. 19. Feathers at base of bill not extending forward on sides or top. *Ad.* ♂. Wholly black; bill black, yellow at base. *Ad.* ♀. Brownish above, lighter below; no white on wing or on sides of head. *Notes.* A long musical whistle. (Elliot.)

Range.—Northern North America; breeds from Labrador and Alaskan shores of Bering Sea northward; winters south to Virginia, Great Lakes, Colorado, and California.



166. Surf Scoter (*Oidemia perspicillata*). L. 20. Feathers extending forward on top of bill. *Ad.* ♂. Black, nape and crown white; bill orange, yellow, and white, a round black patch on its sides. *Ad.* ♀. Above black, throat and breast paler; belly whitish; a whitish patch at base of bill. *Yng.* Similar but with white patches on ears.

Range.—Northern North America; breeds from Newfoundland northward; winters south to Virginia, Florida, Illinois, and Lower California.

165. White-winged Scoter (*Oidemia deglandi*). L. 22. A white patch on wing: feathers extending forward along *sides and top* of bill nearly to nostrils. *Ad.* ♂. Black, a white spot about eye; bill orange, black at base. *Ad.* ♀. Dusky brown above; lighter below. *Yng.-*♂. Similar but sides and front of head whitish.

Range.—Northern North America; breeds from Labrador and North Dakota northward; winters south to Virginia, southern Illinois, and Lower California.

177. Black-bellied Tree Duck (*Dendrocygna autumnalis*). L. 22. *Ads.* Belly and tail coverts *black*; foreback and breast gray; greater wing-coverts whitish. *Notes.* A shrill whistle. (Elliot.)

Range.—Tropical America north to southern Texas.

178. Fulvous Tree Duck (*Dendrocygna fulva*). L. 22. *Ads.* Belly uniform rusty brown; upper tail coverts white; a black streak on hindneck; no white in wing. *Notes.* A squealing whistle.

Range.—Tropical America, north in summer to Texas, Louisiana, Nevada and central California. "Casual in North Carolina and Missouri." (A. O. U.)

169. Lesser Snow Goose (*Chen hyperborea*). L. 23-28, *Ads.* White, head sometimes rusty; primaries black. *Yng.* Head, neck, and above grayish.

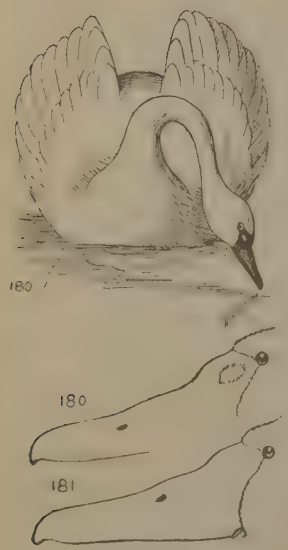
Range.—"Pacific coast to the Mississippi Valley, breeding in Alaska; south in winter to southern Illinois and southern California; casually to New England." (A. O. U.)

169a. Greater Snow Goose (*C. h. nivalis*). Similar to No. 169, but larger, L. 30-38.

Range.—Eastern North America; breeds in Arctic regions; winters from Chespeake, New Jersey (rarely) south to Cuba; rare on Atlantic coast north of Maryland.

170. Ross Snow Goose (*Chen rossii*). L. 21; B. 1.6. Similar in color to No. 169, but much smaller; bill particularly smaller.

Range.—Arctic America in summer; Pacific coast to southern California and east to Montana in winter.



180. Whistling Swan (*Olor columbianus*). L. 55. Nostril nearer to tip of bill than to eye. *Ads.* White, bill and feet black; a small yellow spot before the eye. *Yng.* Head and neck brownish, rest of plumage washed with grayish. *Notes.* '*whoogh*, '*whoogh*, very loud and shrill. (Nuttall.)

Range.—North America; breeds within Arctic Circle; winters from British Columbia (?) Lower Mississippi Valley, Chesapeake Bay, south to Gulf of Mexico; rare on Atlantic Coast north of Virginia.

181. Trumpeter Swan (*Olor buccinator*). L. 65. Nostril about in middle of bill. *Ads.* White, bill and feet black; *no* yellow on lores. *Yng.* Head and neck brownish; rest of plumage washed with grayish. *Notes.* Loud and sonorous in tone like those of a French horn. (Elliot.)

Range.—"Chiefly the interior of North America, from the Gulf Coast to the Fur Countries, breeding from Iowa and the Dakotas northward; west to the Pacific Coast; rare or casual on the Atlantic." (A. O. U.)

169.1.

169.1. Blue Goose (*Chen cærulescens*). L. 28. *Ads.* Head and neck white; below brownish gray; foreback like breast; rump gray. *Yng.* Similar but head and neck grayish brown.

Range.—North America; breeds in Hudson Bay region; winters on west coast of the Gulf of Mexico; two California records; said to have occurred in New Jersey.

171a.

171a. American White-fronted Goose (*Anser albifrons gambeli*). L. 28. *Ads.* Forehead and rump white; below spotted with black. *Yng.* Similar but no white on head no black below.

Range.—North America; breeds in Arctic region; winters on Gulf Coast, California and Mexico; rare on Atlantic coast.

176.

176. Emperor Goose (*Philacte canagica*). L. 26. *Ads.* Foreneck blackish, rest of head and neck white sometimes tinged with rusty; tail mostly white. *Yng.* Body less distinctly *scaled*; head and hind-neck spotted with grayish. *Notes.* When flying, a deep, hoarse, strident *cla-ha, cla-ha, cla-ha*; when alarmed and about to fly, a ringing *a-lagh, -alagh.* (Nelson.)

Range.—"Coast and islands of Alaska north of the Peninsula; chiefly about Norton Sound and Valley of the Lower Yukon; Commander Islands, Kamchatka; casually south to Humboldt Bay, California." (A. O. U.)

172

172. Canada Goose (*Branta canadensis*). L. 38. *Ads.* A white patch on cheeks and throat; rest of head and neck black; no whitish ring at base of black neck. *Yng.* Similar but with blackish on white of throat. *Notes.* A sonorous *honk.*

Range.—North America; breeds from Labrador, Minnesota and British Columbia, north chiefly in the interior, to Alaska; winters from Long Island, Illinois and British Columbia south to Mexico and southern California.

172a. Hutchins Goose (*B. c. hutchinsii*). Similar to No. 172, but smaller; L. 30; tail feathers, 14-16.

Range.—Western North America; breeds in Arctic regions; winters from British Columbia and Kansas south to Lower California and Mexico.

172c.

172b. White-cheeked Goose (*B. c. occidentalis*). Size of No. 172, but throat blackish, lower neck with white collar.

Range.—"Pacific coast region, from Sitka, south in winter to California." (A. O. U.)

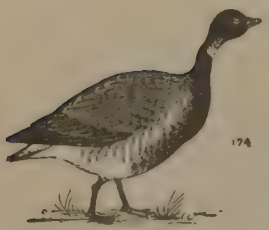
173.

172c. Cackling Goose (*B. c. minima*). Similar to No. 172b, but smaller, L. 24; tail feathers 14-16.

Range.—Western North America; breeds in Alaska; winters from British Columbia southward; east rarely to Wisconsin.

173. Brant (*Branta bernicla glaucogastra*). L. 26. *Ads. Sides* of neck with white markings; belly *whitish*. *Notes.* A guttural *car-r-rup*, or *r-r-r-rouk*. (Elliot.)

Range.—Northern hemisphere; breeds in Arctic regions; winters in America, from Mississippi Valley east, and from Illinois and Massachusetts southward; rare in interior.



174

174. Black Brant (*Branta nigricans*). L. 26. *Ads. Sides* and *front* of neck with white markings; belly nearly as dark as back. *Notes.* A low guttural *gr-r-r-r*; on alarm repeated often with emphasis. (Nelson.)

Range.—Western North America; breeds in northern Alaska and eastward; winters from British Columbia to Lower California; occasional on Atlantic Coast.

Order VI. FLAMINGOES.

ODONTOGLOSSÆ.

Family 1. FLAMINGOES. Phœnicopteridæ. 1 species.

Flamingoes might be called long-legged Ducks. Their feet are webbed, and their bill is set with ridges, which serve as sieves or strainers, as do the 'gutters' on a Duck's bill. They are, however, wading birds and their webbed feet are of use in supporting them on the soft mud of shallow lagoons or bays where they search for the favorite food of small mollusks. In feeding the flat top of the bill is pressed into the mud when its tip points upward toward the bird's body. Flamingoes fly with the neck and legs stretched to the utmost presenting on the wing a picturesque, but by no means so graceful an appearance as do the Herons. Their voice is a vibrant *honking* like that of a Goose.

Order VII. HERONS, STORKS, IBISES, ETC.

HERODIONES.

Family 1. SPOONBILLS. Plataleidæ. 1 species.

Family 2. IBISES. Ibididæ. 3 species.

Family 3. STORKS and WOOD IBISES. Ciconiidæ. 1 species.

Family 4. BITTERNS, HERONS, ETC. Ardeidæ. 14 species, 3 subspecies.

The Roseate Spoonbill was formerly a common bird in Florida and along the Gulf coast, but so many have been killed for their plumage that in the United States the species is now exceedingly rare except in the most remote parts of southern Florida.

Spoonbills build a rude nest of sticks in mangrove bushes or small trees and lay three to five whitish eggs speckled with shades of brown.

Ibises are usually found in flocks along the shore of lagoons, lakes, etc., or in marshy places. They fly with the neck outstretched and are generally silent. Their nests of reeds, weed stalks, etc., are some-

times placed in low bushes, at others in grassy marshes. The eggs number from three to five. They are plain blue in the Glossy Ibis, greenish white with chocolate markings, in the White Ibis.

The Storks are largely Old World birds, only three of the some twenty known species inhabiting the Western Hemisphere. But one of these is found regularly north of the Rio Grande, the so-called Wood Ibis which is abundant in southern Florida. It lives in flocks and builds a nest of sticks usually in cypress trees, often forty feet from the ground, laying two or three white eggs. When flying the neck is extended. It progresses by alternate flapping and sailing and occasionally soars high overhead in circles, like a Vulture.

The Bitterns and Herons unlike our other long-legged wading birds, fly with a fold in the neck. They belong in two subfamilies, the *Botaurinæ* and *Ardeinæ*, respectively. The Bitterns are usually solitary birds inhabiting grassy or reedy marshes where their colors harmonize with their surroundings and render them difficult to see. The American Bittern nests on the ground and lays three to five pale brownish eggs. The Least Bittern usually weaves a platform nest of reeds among rushes growing in the water and lays four or five bluish white eggs.

Herons feed along the shore and are consequently more often seen than Bitterns. With the exception of the Green Heron and the Yellow-crowned Night Heron, which usually nest in isolated pairs, our species gather in colonies to nest. Several hundred pairs occupying a limited area in some wooded or bushy swamp to which, when undisturbed, they return year after year.

Herons build a rude platform nest of sticks, sometimes placing it in bushes, sometimes in the tallest trees, and at others on the ground or beds of reeds in marshes. The eggs are greenish blue in color and usually four in number. It is among those Herons, which in nesting time are adorned with delicate plumes or aigrettes, that the greatest ravages of the millinery hunter have been made. Attacking these birds when they have gathered on the nesting ground, they are not permitted to rear their young and the species is thus exterminated branch and root.

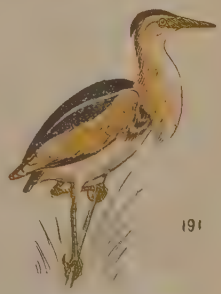
The voice of Herons is a harsh squawk varying in depth of tone with the size of the bird.

190. American Bittern (*Botaurus lentiginosus*). L. 28. *Ads.* A glossy black streak on either side of the neck. *Yng.* Similar to ad. but colors much deeper, more rusty. *Notes.* Call, *quawk*; song, *pump-er-lunk*.

Range.—North America north to Labrador and British Columbia, breeding chiefly north of latitude 35°; winters from about latitude 35° southward.

191. Least Bittern (*Ardetta exilis*). L. 13. *Ad.* ♂. Hindneck rufous, foreneck, underparts, and under tail-coverts white and buff. *Ad.* ♀. Similar, but crown and back brown, below streaked with brownish. *Notes.* Call, an explosive *quah*; song, a soft *coo* repeated four or five times.

Range.—North America; breeds from Gulf States to New Brunswick and Manitoba; winters from Gulf States southward. "Less common west of Rocky Mountains; on the Pacific coast north to northern California." (A. O. U.)



191.1. Cory Bittern (*Ardetta neoxena*). L. 13. *Ad* ♂. Hindneck black, foreneck chestnut, belly mixed black and chestnut, under tail-coverts black. *Ad.* ♀. Similar, but crown and back duller.

Range.—Eastern North America; recorded from Florida, Ontario, (breeding), Massachusetts, and Michigan; about 20 specimens known.

192. Great White Heron (*Ardea occidentalis*). *Ads.* White, no "aigrette" plumes. A white Heron about the size of a Great Blue Heron What is supposed to be a gray-blue phase of this bird has been called *Ardea wuerdmanni*, a bird which resembles No. 194, but has the head and neck whitish.

Range. - Southern Florida, Cuba and Jamaica

196. American Egret (*Herodias egretta*). L. 41. *Ads.* White, about 50 *straight* "aigrette" plumes grow from the back between the wings; legs and feet *black.* Ads. when not breeding and Yng., the same, but no plumes.

Range.—Tropical and temperate America; breeds north to Virginia, southern Illinois, and California; later strays to New Brunswick, Minnesota, and Oregon; winters from southern California and Gulf States southward.

197. Snowy Heron (*Egretta candidissima*). L. 24. *Ads.* White, about 50 *recurved* "aigrette" plumes grow from back between the wings; legs black, feet *yellow.* Ads when not breeding and Yng. The same, but no plumes.

Range.—Tropical and temperate America; bred formerly north to Long Island, southern Illinois and California; now very rare in eastern North America; winters from Gulf States and southern California southward.

194. Great Blue Heron (*Ardea herodias*). L. 45; W. 18.5; B. 5.5; Tar. 7. *Ads.* Center of crown white, head crested; legs blackish. *Yng.* Similar, but no crest, crown wholly black, plumage more streaked.

Range.—Northern South America north to Arctic regions; breeds locally throughout most of North America range; winters from about latitude 42° southward.

194a. Northwest Coast Heron (*A. h. fannini*). Similar to No. 194 but much darker; upperparts bluish slate black; tarsus shorter, 5.3.

Range.—Pacific coast from Vancouver to Sitka.

194b. Ward Heron (*A. h. wardi*). Similar to No. 194 but whiter below, neck darker; legs olive; larger, L. 52; W. 20; B. 6.5; Tar. 8.

Range.—Florida; coast of Texas.

202. Black-crowned Night Heron (*Nycticorax nycticorax nævius.*) L. 24. *Ads.* Crown and back greenish black; lower back, wings and tail ashy; head with two or three rounded white plumes, except just after breeding season. *Yng.* Grayish brown streaked with white; below white streaked with blackish; outer webs of primaries, *pale rufous.* *Notes.* An explosive *qûawk.*

Range.—Western hemisphere; breeds in North America north to New Brunswick, Quebec, Manitoba, and Oregon; winters from California and Gulf States southward.

203. Yellow-crowned Night Heron (*Nyctanassa violaceus*). L. 23. *Ads.* Blue-gray; crown and ear-coverts whitish, rest of head black; scapulars streaked with black; head with two or three rounded, white plumes, except just after nesting season. *Yng.* Crown *black*, streaked with whitish; primaries *bluish slate, no rufous*; back brownish streaked with white; below whitish streaked with blackish.

Range.—Tropical and subtropical America; breeds north to South Carolina, southern Illinois, and Lower California; strays to Massachusetts and Colorado; winters from Gulf States southward.

198. Reddish Egret (*Dichromanassa rufescens*). L. 29. Two color phases independent of age. *Ads. Dark phase*, Head and neck rufous; back slate; about 30 "aigrette" plumes. *White phase.* White, including plumes; tips of primaries sometimes speckled with gray. *Yng.* Rufous and gray, or white, without plumes.

Range.—West Indies and Central America north to coasts of Gulf States, Illinois (rarely), and Lower California.

199. Louisiana Heron (*Hydranassa tricolor ruficollis*). L. 26. *Ads.* "Aigrette" plumes, short, dirty gray; rump and belly white; legs blackish. *Yng.* Head and neck brownish; throat and line down foreneck white; above slaty washed with brownish; rump and belly white.

Range.—West Indies and Central America north to Gulf States, casually to Long Island and Indiana.

200. Little Blue Heron (*Florida cærulea*). L. 22. *Ads.* Head and neck marroon; rest of plumage slaty blue. *Yng.* White, tips of primaries bluish, legs *greenish yellow.*

Range.—Tropical America and eastern United States; breeds north to Virginia and Illinois, later may stray north as far as Nova Scotia; winters from South Atlantic and Gulf States southward.

201. Little Green Heron (*Butorides virescens*). L. 17. Smallest of our Herons. *Ads.* Crown, glossy green-black; throat and line down foreneck buffy; rest of head and neck purplish chestnut; back green washed with bluish gray. *Yng.* Neck and below streaked with blackish; back-feathers not lengthened; duller. *Notes.* A rattling *oc-oc-oc-oc-oc*, a startling *scow*, and, more rarely, a deep, hollow groan. (Brewster.)

Range.—Tropical and temperate North America; breeds from Gulf States north to Nova Scotia and Manitoba; winters from Gulf States southward to northern South America.

201a. Frazar Green Heron (*B. v. frazari*). Similar to No. 201, but rather larger and darker, neck more purplish, light stripings on throat and foreneck more restricted. (Brewster.)

Range.—Lower Californa.

201b. Anthony Green Heron (*B. v. anthonyi*). Similar to No. 201, but slightly larger, and paler, light markings of wings, neck, and throat less restricted and whiter. (Mearns.)

Range.—Arid portions of southwestern United States, south into Mexico.

Order VIII. CRANES, RAILS, ETC.

PALUDICOLÆ.

Family 1. CRANES. Gruidæ. 3 species.

Family 2. COURLANS. Aramidæ. 1 species.

Family 3. RAILS, GALLINULES, and COOTS. Rallidæ. 12 species, 3 subspecies.

Cranes bear a general resemblence to Herons in that they are long-legged, long-necked birds, but when on the wing, they carry the neck fully extended, a habit which will readily distinguish them from the curved neck Herons. Cranes are less aquatic than Herons and are often found feeding on the prairies or pine-barrens where worms, grasshoppers, lizards, roots, etc., form their fare. They nest on the ground laying two buffy eggs thickly marked with brown. The young, unlike the nearly naked, helpless young of Herons, are born covered with down and can soon follow their parents. The Cranes have loud sonorous voices; the Herons raucous croaks.

The Limpkin is a singular inhabitant of the more retired Florida swamps. It feeds upon the ground largely upon a kind of land shell, but also perches in trees. Its nest of twigs is placed in a small tree or bush, and it lays from four to seven pale buffy eggs stained and speckled with cinnamon brown.

The Rails (Subfamily *Rallinæ*) are inhabitants of grassy marshes where, trusting to their long legs, they more often escape observation by running than by flying. One may hear their characteristic notes coming from the dense growth only a few yards distant and still be unable to catch a glimpse of their maker.

Rails nest on the ground laying six to twelve or fifteen buffy eggs spotted with reddish brown. The young of all our species are born covered with a shining black down.

The Gallinules (Subfamily *Gallinulinæ*) are more aquatic than the Rails and are consequently less difficult to observe.

The Coots (Subfamily *Fulicinæ*) are still more aquatic than the Gallinules, as might be supposed from their lobed toes, in fact are as much at home in the water as though they were Ducks. Both Gallinules and Coots lay eight to sixteen buffy, thickly speckled eggs in a nest of reeds often built on a pile of rushes in the reeds.

204. Whooping Crane (*Grus americana*). L. 50. *Ads.* White; skin of top of head dull red; primaries black. *Yng.* Head feathered, plumage more or less washed with rusty.

Range.—Interior of North America: breeds from northern Mississippi Valley north to Arctic regions; winters from Gulf States southward.

205. Little Brown Crane (*Grus canadensis*). L. 35. W. 18; B. 4. *Ads.* Skin of top of head dull red; plumage brownish gray. *Yng.* Head feathered, plumage with more or less rusty.

Range.—"Northern North America from Hudson Bay to Alaska, migrating south through western United States east of Rocky Mountains to Mexico." (Ridgway.)

206. Sandhill Crane (*Grus mexicana*). Similar to No. 205, but larger. L. 44; W. 20; B. 5. *Notes.* A loud, sonorous, grating, *krrrow*, repeated five or more times.

Range.—North America; breeds locally from Texas, Cuba, Florida north through Mississippi Valley to Manitoba, British Columbia, and Oregon; winters from northern California and Gulf States southward.

207. Limpkin (*Aramus giganteus*). L. 28. *Ads.* Glossy olive-brown, striped with white; wings and tail more bronzy. *Notes.* A loud *wah-rer-ow*, repeated and the last note prolonged into a wail.

Range.—Central America and West Indies north to southern Texas and Florida.

208. King Rail (*Rallus elegans*). L. 15. *Ads.* Above olive-brown, black, and olive-gray; wing-coverts reddish brown; neck and breast cinnamon; belly and sides *blackish, sharply* and broadly barred with white. *Notes.* A loud *bup, bup, bup*, repeated and ending in a roll.

Range.—Eastern United States; breeds from Florida north to Connecticut and South Dakota; strays to Maine; winters from Virginia and Lower Mississippi Valley south to Gulf States.

209. Belding Rail (*Rallus beldingi*). Similar to No. 208, but paler; flank-bars narrower.

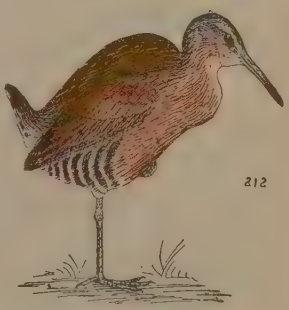
Range.—Lower California.

210. California Clapper Rail (*Rallus obsoletus*). L. 17. Above grayish olive-brown streaked with blackish brown; breast cinnamon; flanks dusky brown narrowly banded with white. Margins to back feathers much broader than in forms of *crepitans*.

Range.—Salt Marshes of Pacific coast north to Washington.

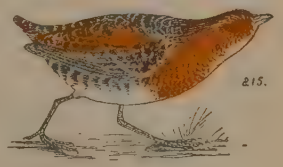
212. Virginia Rail (*Rallus virginianus*). L. 9.5; B. 1.5. *Ads.* Above blackish and grayish brown; wing-coverts reddish brown; below cinnamon, flanks black and white. Resembling a King Rail in color, but much smaller. *Notes.* Calls, *kep* or *kik*; song, a grunting sound and *cut, cŭtta-cŭtta-cŭtta*. (Brewster.)

Range.—North America; breeds from Pennsylvania, Long Island, northern Illinois, and middle California north to Labrador, Manitoba, and British Columbia; winters from about its southern breeding limits south to Cuba and Guatemala.



215. Yellow Rail. (*Porzana noveboracensis*). L. 7; B. .5. *Ads.* Above black and buffy *barred* with white; breast buffy; sides brownish barred with white. *Notes.* An abrupt cackling, *'krĕk, 'krek, 'krek, 'krek, kŭk, 'k'k'k.* (Nuttall.)

Range.—Eastern North America north to New Brunswick, Quebec, and Hudson Bay, west to Manitoba and rarely California; probably breeds chiefly north; winters in southern States.



211. Clapper Rail, Marsh Hen (*Rallus crepitans*). L. 14.5; W. 5; B. 2.5. *Ads.* Above *pale* olive bordered by *gray*; wing-coverts *pale* grayish brown; breast *pale* cinnamon; flanks barred *gray* and white. *Notes.* *Gkak, gkak, gkak,* at first loud and rapid, ending lower and slower.

Range.—Salt marshes of the Atlantic coast; breeds from North Carolina to Connecticut; winters from Long Island (rarely) southward, north casually to Massachusetts; south casually to Louisiana.

211a. Louisiana Clapper Rail (*R. c. saturatus*). Similar to No. 211, but above rich brown edged with olive; breast darker cinnamon; bill more slender, 2.3.

Range.—Coast of Louisiana.

211b. Scott Clapper Rail (*R. c. scotti*). Similar to No. 211, but much darker; sooty brown or black above edged with olive-brown or olive-gray; breast and neck cinnamon, washed with brownish; flanks brown and white. Darkest bird of group.

Range.—Gulf coast of Florida.

211c. Wayne Clapper Rail (*R. c. waynei*). Similar to No. 211, but darker, back rich olive-brown edged with gray; breast more ashy.

Range.—Atlantic coast, North Carolina to eastern Florida.

211.2. Caribbean Clapper Rail (*Rallus longirostris caribæus*). L. 14; W. 5.7; B. 2.4. *Ads.* Above olive-brown edged with olive-ashy; breast cinnamon; flanks *brown* and white.

Range.—West Indies; coast of southeastern Texas (and northeastern Mexico?).

214. Carolina Rail (*Porzana carolina*). L. 8.5; B. 8. *Ads.* Region about base of bill black. *Yng.* Similar, but no black about base of bill; breast more cinnamon. *Notes.* Calls, *kuk* or *peep*; song, *ker-wee*; and a high, rolling *whinny*.

Range.—North America; breeds from Long Island, Illinois, Kansas, and southern California, north to Newfoundland, Hudson Bay region, and British Columbia; winters from South Carolina, southern Illinois, and northern California south to South America.

216. Little Black Rail (*Porzana jamaicensis*). L. 5; B.6. *Ads.* Head, breast, and belly slate; back blackish brown barred with white; nape reddish brown. *Notes.* Probably, *kik-kik-kik, queeah,* or *kik-ki-ki-ki, ki, queeah,* or variants. (Brewster.)

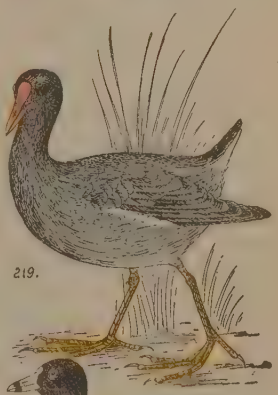
Range.—"Temperate North America north to Massachusetts, northern Illinois, and Oregon; south to West Indies and Guatemala." (A. O. U.) Probably breeds throughout its North American range (Connecticut, Illinois, Kansas).

218. Purple Gallinule (*Ionornis martinica*). L. 13. *Ads.* Crown-plate bluish, bill carmine tipped with greenish; back shining green; below purplish blue; under tail-coverts white. *Yng.* Above browner; below with white; no red on bill.

Range.—Tropical and subtropical America; breeds only in eastern North America north to southern Illinois and South Carolina, strays to Maine and Wisconsin; winters from southern Florida south to South America.

219. Florida Gallinule (*Gallinula galeata*). L. 13.5. *Ad.* Crown-plate red, bill red tipped with greenish; legs green with a red ring; back olive-brown; flanks slate *streaked with white*. *Yng.* Crown-plate smaller with bill brownish; no red on legs; below grayish. *Notes.* An explosive *chuck* and many loud and varied calls suggesting a disturbed brooding hen, the squawking of a struggling hen, etc.

Range.—Temperate and tropical America; breeds locally north to Maine, Montreal, Minnesota, and northern California; winters from Gulf States and California southward.



221. American Coot (*Fulica americana*). L. 15. Toes with scallops. *Ads.* Bill whitish; crown-plate and two spots on bill brownish; head and neck black; rest of plumage slate. *Yng.* Whiter below, browner above, crown-plate smaller. *Notes.* An explosive *cuck* and noisy cackling notes.

Range.—North America; breeds in the interior (chiefly northward) north to the Mackenzie and on Pacific coast to British Columbia; winters from British Columbia and Gulf States south to Central America and West Indies.

Order IX. SHORE BIRDS.

LIMICOLÆ.

Family 1. PHALAROPES. Phalaropodidæ. 3 species.

Family 2. AVOCETS AND STILTS. Recurvirostridæ. 2 species.

Family 3. SNIPES, SANDPIPERS, ETC. Scolopacidæ. 33 species, 2 subspecies.

Family 4. PLOVERS. Charadriidæ. 9 species, 2 subspecies.

Family 5. SURF BIRDS AND TURNSTONES. Aphrizidæ. 4 species.

Family 6. OYSTER-CATCHERS. Hæmatopodidæ. 3 species.

Family 7. JACANAS. Jacanidæ. 1 species.

The Phalaropes are swimming Snipes. The Northern and Red Phalaropes, both of which have well-developed lobes or scalloped webs on their toes, except when nesting, live at sea a hundred miles or more off shore, where they find an abundance of food in small forms of marine life. The Wilson Phalarope is a bird of the interior and consequently, is far less aquatic than the remaining species of the family; nevertheless it readily takes to water, swimming buoyantly and gracefully.

Contrary to the general rule, the female Phalarope is larger and more brightly colored than the male and this difference in size and plumage is accompanied by similarly unusual habits; the female taking the place of the male in the Phalarope household. The female of necessity lays the eggs, but they are hatched by the male alone, who it is said, cares for the young, also without the assistance of his mate.

The Avocets and Stilts are wading Snipes. The Stilts secure their food by quick thrusts of the bill, but the Avocets use their singular, upturned member in a more interesting manner. When in water two or three inches deep, the bill is dropped below the surface, until the curved lower mandible evidently touches the bottom; then walking rapidly, or even running, the bill is swung from side to side and the bird thus explores the mud in its search for food, which, when it is felt, is picked up in the usual way.

Many of the members of the family Scolopacidæ are probing Snipe. The Woodcock, Wilson Snipe, and Dowitcher are good examples.

Their bill is long and sensitive and they can curve or move its tip without opening it at the base. When the bill is thrust into the mud the tip may therefore grasp a worm and it thus becomes a finger as well as a probe.

Though not ranked as song birds, many of the Snipes and Plovers have pleasing calls and whistles and in the breeding season they become highly musical or indulge in singular vocal performances.

The song of the Bartramian Sandpiper would attract the attention of the least observant and the singular aerial evolutions of the Snipe and Woodcock lend an unusual interest to the study of these birds in the spring. The Pectoral Sandpiper was observed by Nelson in Alaska, in May, to fill its œsophagus with air dilating the skin of the neck and breast and forming a sack as large as the body. Then in the air or on the ground the bird produced a series of hollow booming notes, constituting its love song.

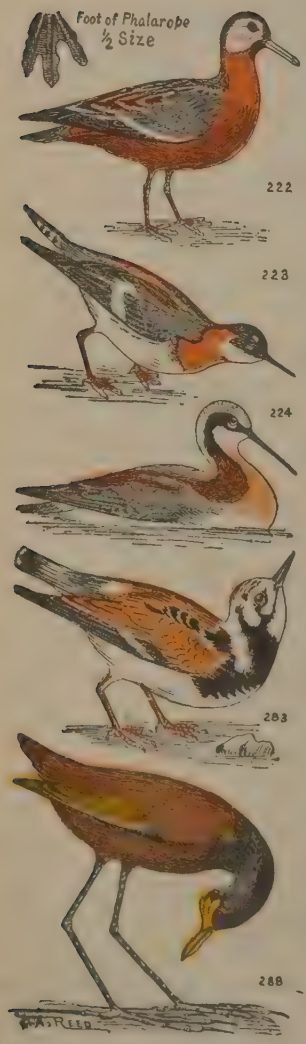
The Plovers have shorter, harder bills than the true Snipe and several of our species frequent the uplands rather than muddy shore or tidal flats.

The Turnstones are true shore birds. Their home with us is on the seacoast where they feed along the beach turning over shells and pebbles in their search for food.

The Oyster-catchers are also strictly maritime. They frequent bars left bare by the tide and, it is said, use their stout bills to force open mussels, oysters, or other bivalves left exposed by the water. This belief, however, does not appear to rest on careful, definite observation.

The Jacana belongs to a small family of birds with representatives throughout the tropics. All its members are remarkable for the length of their toes, the wide extent of which enable these birds to walk over aquatic vegetation. So, for instance, I have seen them running over small lily leaves which, sinking slightly beneath the surface, made the birds appear to be walking on the water.

The Limicolæ, as a rule, nest on the ground. The Phalaropes, Snipes, and Plovers lay four eggs, the Oyster-catcher three, the Jacanas, it is said, four in some species to ten in others. The eggs of all are proportionately large and pointed or pear-shaped and are usually thickly marked with dark spots. The young are born covered with down and leave the nest just after hatching.



222. Red Phalarope (*Crymophilus fulicarius*). L. 8.10; B. 9. Bill heavy, wider than deep. *Ad.* ♀. Below entirely reddish brown; cap black, back black and buff. *Ad.* ♂. Similar, but smaller; crown and back streaked with brown, black, and buff. *Yng.* Resemble ♂, but upper tail-coverts plumbeous, underparts *white*. *Winter*. *Crown* and underparts white, hindneck black, back gray. *Notes*. A musical *clink, clink*. (Nelson.)

Range.—"Northern parts of northern hemisphere, breeding in the Arctic regions and migrating south in winter: in the United States south to the Middle States. Ohio Valley, and Cape St. Lucas; chiefly maritime" (A. O. U.)

223. Northern Phalarope (*Phalaropus lobatus*). L. 7.7; B. .8. Bill short, slender, sharply pointed. *Ad.* ♀. Breast rufous; above slaty gray mixed with ochraceous on back. *Ad.* ♂. Smaller, less rufous on throat; above blackish streaked with rusty. *Yng.* Underparts and *forehead* white; crown sooty; back blackish streaked with straw-color. *Winter*. Upperparts gray mixed with white; underparts white. *Notes*. A low chippering, clicking note.

Range.—Northern hemisphere; breeds from Labrador and northern British America north to Greenland and Alaska; winters apparently south of United States where it is known as a migrant chiefly off the coasts.

224. Wilson Phalarope (*Steganopus tricolor*). L. 9.5; B. 1.3. Bill long. *Ad.* ♀. Sides of neck black and chestnut; crown and back gray. *Ad.* ♂. Smaller; chestnut and black much less and duller; crown and back blackish, latter sometimes with rufous. *Yng.* Below white; crown and back black margined with ochraceous; nape brownish gray. *Winter*. Above gray, upper tail-coverts white; below white. *Notes*. A soft, trumpeting *yna, yna*.

Range.—North America, chiefly in the interior; breeds from northern Illinois (rarely), Minnesota and Central California, north to latitude 55°; winters south of United States to southern South America.

283. Turnstone (*Arenaria interpres*). Similar to 283.1 but larger, W. 6., and upperparts in *ad.* with black prevailing. *Yng.* Blacker than young of 283.1.

Range.—Eastern hemisphere, in America, only in Greenland and Alaska.

283.1. Ruddy Turnstone (*Arenaria morinella*). L. 9.5; W. 5.7. *Ads.* Reddish brown prevailing in upper surface. *Yng.* Above and breast grayish brown margined with buffy, throat, abdomen, rump and long upper tail-coverts *white* as in ad.; shorter upper tail-coverts black. *Notes*. When flying, a loud twittering note. (Nuttall.)

Range.—Nearly cosmopolitan; breeds in Arctic regions; winters in America south of United States to Patagonia.

288. Mexican Jacana (*Jacana spinosa*). L. 8. Toes over 1.5. *Ads.* Chestnut and black; wings mostly greenish. *Yng.* Forehead, line over eye, and below white. Above grayish brown, sometimes with rump chestnut, nape black. *Notes*. A harsh, rapidly repeated *eep, eep, eep*.

Range.—Central America and Mexico north to Lower Rio Grande Valley, Cuba and Haiti.

225. American Avocet (*Recurvirostra americana*). L. 16.5; B. 3.7. *Ads.* Head and neck rufous; belly white; wings black and white. *Yng. and Ads. in winter.* Similar, but head and neck grayish or whitish. *Notes.* A rather musical, loud *plēē-ēēk* hurriedly repeated.

Range.—North America west of Mississippi; breeds from northern States, central California and rarely Texas, north in the interior to latitude 54°; winters from southern California and western Gulf States to Central America and West Indies; casual on Atlantic coast.

225.

264. Long-billed Curlew (*Numenius longirostris*). L. 24; B. 6., longest among our Snipe. *Ads.* Above black and buffy; tail barred buffy and black; below buffy, neck and breast finely streaked with dusky. *Yng.* Similar, but buff deeper.

Range.—North America; breeds on Atlantic coast from Florida to North Carolina; in interior north to Manitoba and British Columbia; later strays casually to Newfoundland and Ontario; winters from Gulf States and southern California southward.

264.

265. Hudsonian Curlew (*Numenius hudsonicus*). L. 17; B. 3.7. *Ads.* Less buff than No. 264; above dark grayish brown and brownish gray; tail barred with same; below white, breast streaked; sides barred with blackish.

Range.—North America; breeds in Arctic region; winters south of United States to South America.

265

266. Eskimo Curlew (*Numenius borealis*) L. 13.5; B. 2. *Ads.* Tail barred with grayish brown and black; above blackish and buffy; below buffy, the breast thickly streaked; sides barred with blackish.

Range.—Eastern North America; breeds in Arctic regions; winters south of United States to South America; migrates chiefly through interior.

266.

226.

226. Black-necked Stilt (*Himantopus mexicanus*). L. 15; Tar 4.10. *Ad.* ♂. Forehead, lower back, and underparts white; crown, hindneck, upper back, and wings black. *Ad.* ♀. Similar, but upper back and scapulars grayish brown. *Yng.* Similar to ♀, but brown and black feathers lightly margined with buffy. *Notes.* A sharp, rapidly uttered *ip-ip-ip* when flying; a hoarse *k-r-r-r-r-ing* note when on the ground.

Range.—Temperate and tropical America; breeds north to Gulf States, (locally and rarely in Mississippi Valley to Minnesota) and California; winters from southern California and West Indies to northern South America; rare east of Mississippi except in Gulf States.

286

286. American Oyster-catcher (*Hæmatopus palliatus*). L. 19. *Ads.* Base of tail and longer upper tail-coverts white, shorter coverts and *all* back blackish brown; white in wings conspicuous in flight. *Yng.* Similar but feathers above with buffy margins. *Notes.* A sharp *eep, eep.*

Range.—Temperate and tropical America; breeds on sea coasts only, north to Virginia and western Mexico; winters south of United States to South America; casual north to Nova Scotia.

286.1. Frazar Oyster-catcher (*Hæmatopus frazari*). Similar to No. 286, but darker above, black breast passing into white belly through a mottled black and white band; upper tail coverts with brown markings.

Range.—"Lower California (both coasts), north to Los Coronados Islands." (A. O. U.)

287. Black Oyster-catcher (*Hæmatopus bachmani*). L. 17. *Ads.* Black. *Yng.* Somewhat browner. *Notes.* A musical, piping whistle.

Range.—"Pacific coast of North America from Aleutian Islands to La Paz, Lower California."

228. American Woodcock (*Philohela minor*). L. 11. *Ads.* Below ochraceous-rufous; *no bars;* forehead slaty, crown black with rusty bars; back mixed black, rusty and slaty. *Notes.* A nasal *peent* or *paip*; a whistling of wings and a twittering whistle.

Range.—Eastern North America; breeds locally from Florida to Labrador and Manitoba, but chiefly northward; winters from southern New Jersey and southern Illinois to Gulf States.

230. Wilson Snipe (*Gallinago delicata*). L. 11.2. *Ads.* Throat and belly white or whitish; breast rusty buff indistinctly streaked; sides *barred*; above streaked black and cream-buff; tail black and rusty; outer feathers barred black and white. *Notes.* When taking flight several sudden, hoarse *scaipes*; a tremulous, penetrating bleating, thought to be produced by air rushing through the birds wings; a *kûk-kûk-kûk*. (Brewster.)

Range.—North America; breeds from northern New England (rarely Connecticut), northern Illinois and northern California north to Labrador, Hudson Bay, and Alaska; winters from California, southern Illinois, and South Carolina to northern South America.

261. Bartramian Sandpiper (*Bartramia longicauda*). L. 11.5. Outer primary barred black and white. *Ads.* Above black, ochraceous, and brownish gray; breast and sides with dusky arrowheads; throat and belly whitish. *Yng.* Similar, but more buffy. *Notes.* Call, a soft, bubbling whistle; song, a prolonged, mournful, mellow whistle, "*chr-r-r-r-r-r-ee-e-e-e-e-e-e-e-oo-oo-o-oo.*"

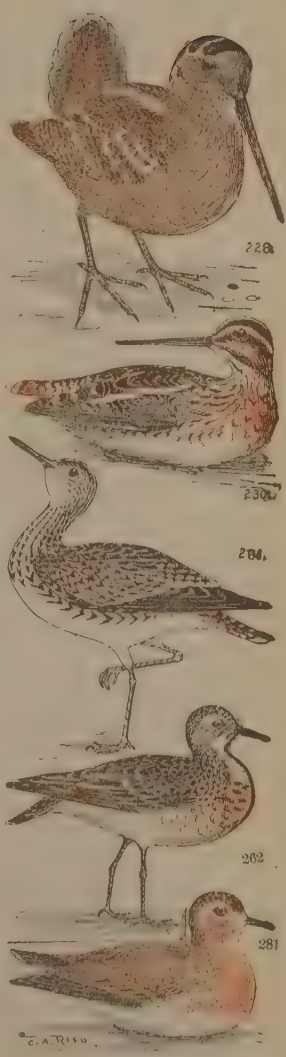
Range.—North America chiefly interior; breeds locally from Kansas and Virginia to Alaska and Nova Scotia; winters south of United States to South America.

262. Buff-breasted Sandpiper (*Tryngites subruficollis*). L. 8.5. Inner border of inner web of primaries beautifully speckled with black and white. *Ads.* Above black widely margined with grayish brown; below ochraceous-buff; a few black spots. *Yng.* Above blackish brown, finely and evenly margined with whitish; below much as in adult.

Range. "North America especially in the interior; breeds in the Yukon district and the interior of British America north to the Arctic coast; south in winter as far as Uruguay and Peru." (A. O. U.)

281. Mountain Plover (*Podasocys montana*). L. 9. No black on breast. *Ads.* Lores and crown-band black; above grayish brown washed with pale rusty. *Yng.* Similar, but no black, rusty wash deeper. *Winter.* Same as last but rusty paler.

Range.—Western United States; breeds from Kansas to North Dakota; winters westward to California, south to Lower California and Mexico; accidental in Florida.



231. Dowitcher (*Macrorhamphus griseus*) L. 10.5; B. 2.1, pitted at tip. *Ads. Rump, tail,* under wing-coverts, and axillars *barred* black and white; above black margined with rusty; rump, white; below reddish brown, spotted and barred with black. *Yng.* Similar, but breast gray tinged with rusty; belly white. *Winter.* Above gray, breast gray mixed with dusky, belly white.

Range.—Eastern North America; breeds chiefly north and northwest of Hudson Bay; winters from Florida to northern South America.

232. Long-billed Dowitcher (*Macrorhamphus scolopaceus*). B. 2.1 to 2.9. Similar to preceding but larger, bill longer; in adult spring plumage more barred below. *Notes.* A lisping, energetic musical, *peet-peet*; *pēe-ter-wēe-too*; *wēe-too* repeated. (Nelson.)

Range.—"Western North America, breeding in Alaska to the Arctic coast migrating south in winter through western United States (including Mississippi Valley) to Mexico, and less commonly along Atlantic coast." (A. O. U.)

233. Stilt Sandpiper (*Micropalama himantopus*). L. 8.2; tarsus long, 1.6. *Ads.* Entire underparts and upper tail-coverts white barred with black; tail not barred. *Yng.* Resembles ad. but below white, breast lightly streaked; rump white no bars. *Winter.* Similar to yng. but back gray.

Range.—Eastern North America; breeds within Arctic Circle; winters from Florida to South America.

234. Knot (*Tringa canutus*). L. 10.5; B. 1.½. Upper tail-coverts with black bars and loops; tail feathers without bars narrowly margined with white. *Ads.* Mixed black, gray and reddish brown above, reddish brown below. *Yng.* Above gray, margined with cream-white and black; below white; breast lightly streaked. *Winter.* Similar, but above gray.

Range.—Northern hemisphere; breeds within Arctic circle; winters from Florida to South America; migrates chiefly along the coasts, rare on Pacific coast of United States

244. Curlew Sandpiper (*Erolia ferruginea*). L. 8; B. 1.5, slightly curved. *Ads.* Below chestnut-rufous, above rusty and black. *Yng.* Above brownish gray margined with whitish; back blacker below white. *Winter.* Above plain brownish gray; below white.

Range.—"Old World in general; occasional in Eastern North America and Alaska." (A. O. U.)

235. Purple Sandpiper (*Arquatella maritima*). L. 9. *Ads.* Above black, margined with rusty and cream-buff; below white, breast and sides heavily marked with black. *Winter.* Head, neck, and breast, slaty; back blacker, margined with slaty; central secondaries largely white.

Range.—"Northern portions of the northern hemisphere; in North America chiefly the northeastern portions, breeding in the high north, migrating in winter to the Eastern and Middle States (casually to Florida), the Great Lakes and Upper Mississippi Valley." (A. O. U.)

236. Aleutian Sandpiper (*Arquatella couesi*). L. 8.5. Similar to No. 235, but ad. and yng. with more ochraceous; in winter grayish margins to back lighter and wider. *Notes.* When flying, a low, clear, musical *twee-twee-twee*; when feeding, *clū-clū-clū*. (Nelson.)

Range.—"Aleutian Islands and coast of Alaska, north to Kowak River, west to Commander Islands, Kamchatka." (A. O. U.)

256. Solitary Sandpiper (*Helodromas solitarius*). L. 8.4. Under wing-coverts, axillars, and all but middle tail-feathers barred black and white. *Ads.* Above fuscous with a faint greenish tinge; head and neck streaked, back spotted with whitish; below white; throat and breast distinctly streaked with dusky. *Yng.* Fewer spots and streaks above; breast markings fused. *Winter.* Practically no white markings above.

Range.—Eastern North America; breeds from Northern States (rarely and sporadically) northward; little known of breeding habits; winters south of United States to South America.

256a. Western Solitary Sandpiper (*H. s. cinnamomeus*). Similar to No. 256, but spots above buffy, especially in fall; inner margin of outer primary speckled black and white.

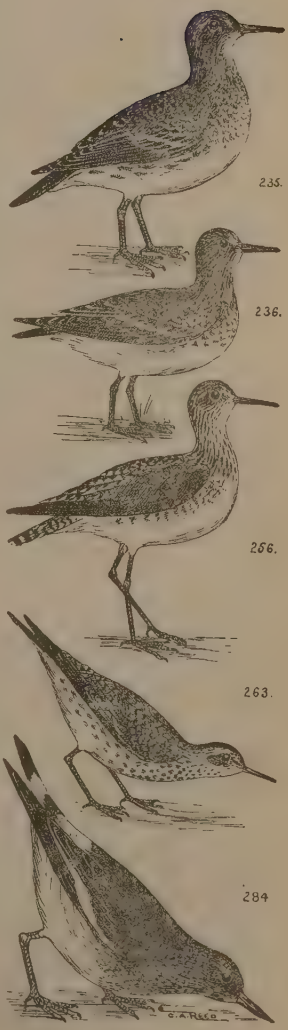
Range.—Western North America; breeds in British Columbia (exact breeding range unknown); winters south of United States.

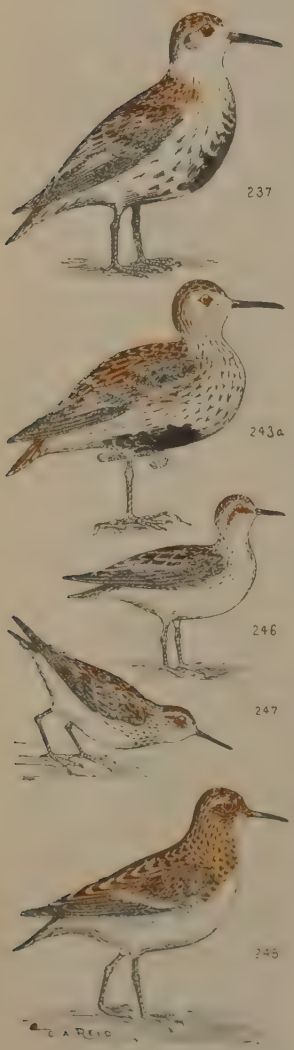
263. Spotted Sandpiper (*Actitis macularia*). L. 7.5. *Ads.* Below white *thickly* spotted with black; above brownish gray with a faint greenish lustre, lightly marked with black. *Yng.* Similar above but faintly margined with dusky and buff; below white, breast grayer; *no black marks.* *Winter.* Same but no margins above. *Notes.* *Peet-weet*, repeated.

Range.—North America, north to Hudson Bay; breeds throughout its North American range; winters from southern California and West Indies to South America.

284. Black Turnstone (*Arenaria melanocephala*). L. 9. No rusty; lower back, longer upper tail-coverts and base of tail white; shorter upper tail-coverts black. *Ads.* Above and breast brownish black; belly white. *Yng.* Browner margined with whitish. *Winter.* Same as Yng, but no margins. *Notes.* A sharp, *weet*, *weet*, *too-weet*. (Nelson.)

Range.—"Pacific coast of North America from Point Barrow, Alaska to Santa Margarita Island, Lower California; breeding from Alaska to British Columbia." (A.O.U.)





237. Pribilof Sandpiper (*Arquatella ptilocnemis*). L. 10. *Ads.* Similar to No. 236 above but crown much lighter; *breast* with a *black patch. Yng.* Resemble adult above but breast grayish indistinctly streaked and with a pale buff band; belly white. *Winter.* Similar to yng. but slaty gray above.

Range.—"Breeding in the Pribilof Islands, Alaska, and migrating to coast of adjacent mainland south of Norton Sound." (A.O.U.)

243a. Red-backed Sandpiper (*Pelidna alpina pacifica*). L. 8; B. 1.5; slightly curved. *Ads.* Belly black; back chiefly rusty. *Yng.* Breast buffy, lightly streaked with dusky; belly white *spotted* with black; back black, rusty, and buff. *Winter.* Above brownish gray; below white; breast grayish, indistinctly streaked.

Range.—North America; breeds in Arctic regions and winters from Gulf States and California to South America.

246. Semipalmated Sandpiper (*Ereunetes pusillus*). L. 6.3; B. .6 to .8. Toes webbed at base. *Ads.* Above brownish gray and black; *little or no rusty;* below white, breast *indistinctly* streaked. *Yng.* Above with rusty and whitish margins; below white, breast grayish no streaks. *Winter.* Above brownish gray with black shaft streaks; below white. *Notes. weet-weet.*

Range.—Eastern North America; breeds in Arctic regions; winters from Gulf States to South America.

247. Western Sandpiper (*Ereunetes occidentalis*). Similar to preceding but bill longer .8 to 1.2; ads. more rusty above, breast streaks more distinct and more numerous. *Notes.* Call, a soft *weet-weet*; song, uttered on the wing, "a rapid, uniform series of rather musical trills." (Nelson.)

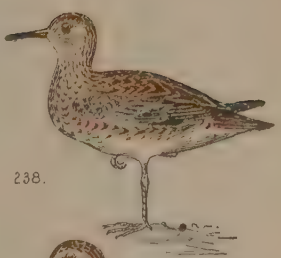
Range.—North America, chiefly west of Mississippi Valley; breeds in Arctic regions; winters from Gulf States to South America.

248. Sanderling (*Calidris arenaria*). L. 8. Three toes, tarsus scaled. *Ads.* Above rusty, black and grayish; below white, breast spotted with black and *washed with rusty. Yng.* Nape grayish, back *black*, feathers with *two* white or yellowish white terminal spots; below silky white. *Winter.* Above brownish gray with dusky shaft streaks; below silky white.

Range.—"Nearly cosmopolitan, breeding in Arctic and Sub-Arctic regions, migrating, in America, south to Chili and Patagonia." (A. O. U.)

238. Sharp-tailed Sandpiper (*Actodromas acuminata*). L. 8.7. *Tail feathers pointed. Ads.* A white line over eye; breast buff streaked with blackish. *Yng.* Crown as in ad., back black and rusty; below white, breast buffy, no streaks. *Winter.* Back grayish brown streaked with blackish; below as in yng., but breast grayer and with indistinct streaks. *Notes.* A soft metallic *pleep-pleep.* (Nelson.)

Range.—"Eastern Asia, and coast of Alaska, migrating south to Java and Australia." (A. O. U.)

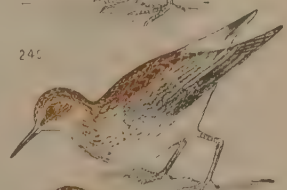


239. Pectoral Sandpiper (*Actodromas maculata*). L. 9. *Ads.* Middle tail-feathers longest, pointed, blackish margined with rusty; above black and rusty; below white, breast thickly streaked; upper tail-coverts *black. Yng. and in winter* much the same. *Notes.* Call, a grating whistle; song, a hollow, resonant, musical *tōō-ū*, repeated eight times, made after filling æsophagus with air until it is puffed out to size of the body. (Nelson.)

Range.—North America; breeds in Arctic regions; winters south of United States to South America; rare on Pacific coast.

240. White-rumped Sandpiper (*Actodromas fuscicollis*). L. 7.5. Longer upper tail-coverts *white. Ads.* Breast white, *distinctly spotted* or streaked. *Yng.* More rufous above; breast less distinctly streaked. *Winter.* Brownish gray above; similar to yng. below.

Range.—Eastern North America; breeds in the interior north of Hudson Bay; winters south of United States to southern South America; rare on Pacific coast.

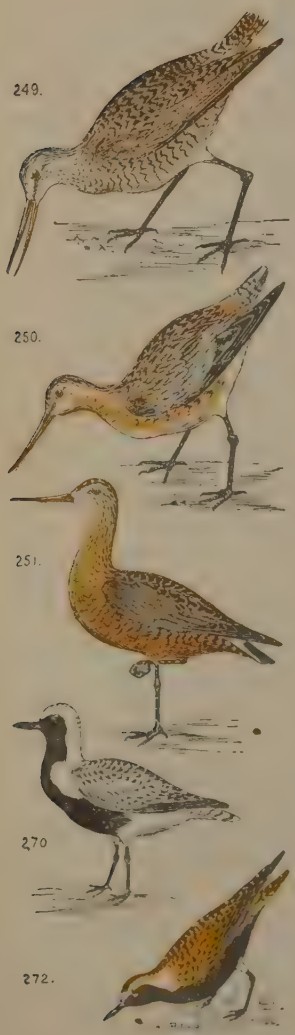


241. Baird Sandpiper (*Actodromas bairdii*). L. 7.5. No rusty in plumage. *Ads.* Longest upper tail-coverts *blackish*; breast buffy, *faintly* streaked. *Yng.* Similar, but back *conspicuously* margined with whitish. *Winter.* Above "buffy grayish brown," no white margins.

Range.—Interior of North America; breeds in the Arctic regions and winters south of United States to southern South America.

242. Least Sandpiper (*Actodromas minutilla*). L. 6. Smallest of our Sandpipers. *Ads.* Above black, buff and rufous; below white breast lightly streaked. *Yng.* Similar, but breast less distinctly streaked. *Winter.* Above brownish gray, often streaked with black, below white. *Notes. Peep-peep.*

Range.—North America; breeds from Sable Island and Magdalens northward; winters from Gulf States and California south to South America.



249. Marbled Godwit (*Limosa fedoa*). L. 18; B. 4; slightly recurved. Tail barred, cinnamon and black; under wing-coverts cinnamon with more or less fine black markings. *Ads.* Above black and ochraceous; below buffy white finely and uniformly barred with black. *Yng.* Similar, but with no or with but few bars below.

Range.—North America; breeds in the interior from western Minnesota, rarely Iowa and Nebraska northward; winters south of United States to Central America and West Indies.

250. Pacific Godwit (*Limosa lapponica baueri*). L. 16. B. 3.7, slightly recurved, tail barred black and white; under wing-coverts black and white. *Ads.* "Head, neck and lower parts, plain cinnamon color." (Ridgw.) *Winter.* Above black, grayish and rusty, former prevailing; below white; throat streaked, elsewhere with irregular, black bars. *Notes.* "A loud ringing *kŭ-wee*, repeated."

Range.—"Shores and Islands of the Pacific Ocean, from New Zealand and Australia to Kamchatka and Alaska. On the American coast recorded south of Alaska only from La Paz, Lower California." (A. O. U.)

251. Hudsonian Godwit (*Limosa hæmastica*). L. 15; B. 3.2, slightly recurved. Under wing-coverts dusky; upper tail-coverts black and white; tail black at end, white at base. *Ads.* Above black, rusty and grayish, below chestnut-red barred with blackish and faintly tipped with white. *Yng.* Similar, but below buffy whitish, breast grayer. *Winter.* Similar below but above brownish gray.

Range.—Eastern North America chiefly interior; breeds in Arctic Regions; winters south of United States to South America.

270. Black-bellied Plover (*Squatarola squatarola*). L. 11. Hind-toe present, small. *Ads.* Above black and white, no yellowish; below black. *Yng.* Above grayish brown spotted with white and some yellowish; below white. *Winter.* Similar to preceding but nearly uniform brownish above.

Range.—Northern Hemisphere; breeds in Arctic Regions, winters in America from Florida to Brazil.

272. American Golden Plover (*Charadrius dominicus*). L. 10.5; W. 7. No hind-toe; axillars dusky. *Ads.* Above conspicuously spotted with yellow; below black, sides of breast white. *Yng.* Duller above, below grayish white with dusky marks and yellowish wash. *Winter.* Similar but no yellow below. *Notes.* Call, a plaintive *too-lee-e*; song, a marvelously harmonious succession of notes. (Nelson.)

Range.—Western Hemisphere; breeds in Arctic Regions; winters from Florida to Patagonia, rare on Pacific coast.

272a. Pacific Golden Plover (*C. d. fulvus*). Similar to No. 272 but wing shorter, 6.5; yellow richer.

Range.—"Breeding from northern Asia to the Pribilof Islands and coast of Alaska, south in winter through China and India to Australia and Polynesia." (A. O. U.)

254. Greater Yellow-legs (*Totanus melanoleucus*). L. 14; B. 2.2. No rusty; upper tail-coverts mostly white; tail barred with black and white or gray. *Ads.* Above black margined with whitish; below white and black. *Yng.* Above grayish margined with whitish; below white, breast lightly streaked. *Winter.* Similar but white margins less conspicuous. *Notes.* A whistled *whew, whew-whew-whew-whew-whew-whew, whew-whew.*

Range.—North America; breeds from Minnesota, rarely northern Illinois, and Anticosti northward; winters from Gulf States and California to southern South America.

255. Yellow-legs (*Totanus flavipes*). L. 10.7; B. 1.4. Similar in color to preceding but smaller in size.

Range.—North America; breeds rarely in upper Mississippi Valley but chiefly north of latitude 55°; winters from Gulf States to southern South America; rare on Pacific coast.

258. Willet (*Symphemia semipalmata*). L. 15; W. 8; B. 2.1. Primaries black with a broad white band; upper tail-coverts mostly white. *Ads.* Above brownish gray, black, and a little buff; below white heavily marked with black and slightly washed with buff. *Yng.* Above brownish gray margined with buffy; below white, breast lightly streaked with dusky. *Winter.* Similar, but above plain brownish gray. *Notes.* Song, *pilly-will-willet*, repeated.

Range. Eastern North America; breeds from Florida to southern New Jersey, later strays casually to Maine; winters from Gulf States to South America.

258a. Western Willet (*S. s. inornata*). Similar to No. 258 but slightly larger. W. 8.5; B. 2.4. In summer above paler, less heavily marked with black both above and below. *Yng. and Winter.* Indistinguishable in color from No. 258.

Range.—Western United States; breeds from Texas to Manitoba; winters from southern California and Gulf States southward. A rare migrant on Atlantic coast from South Carolina to Florida.

259. Wandering Tatler (*Heteractitis incanus*). L. 11. Tail-coverts plain slaty gray. *Ads.* Above plain slaty gray; below white barred with slaty gray. *Yng.* Above slaty gray more or less margined with whitish; breast and sides slaty gray; throat and belly white. *Winter.* Similar, but no white margins above.

Range.—Pacific coast; breeds from British Columbia northward; winters south to Hawaiian Islands and Galapagos.

282. Surf Bird (*Aphriza virgata*). L. 10; B. 1. Upper tail-coverts and base of tail-feathers white. *Ads.* Above black, slaty, and rusty. *Yng.* Above slaty margined with whitish; breast barred slaty and whitish; belly white spotted with slaty. *Winter.* The same, but no whitish margins.

Range.—"Pacific coast of America, from Alaska to Chili." (A. O. U.)

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273. Killdeer (*Oxyechus vociferus*). L. 10.5. Rump and upper tail-coverts rusty. *Ads.* Above grayish brown and rusty; below white with *two* black rings. *Notes.* A noisy *kildeé, kildeé.*

Range.—North America, north to Newfoundland, Manitoba and British Columbia; (rare on North Atlantic coast); breeds locally throughout its range; winters from Virginia, Lower Mississippi Valley and California south to South America.

274. Semipalmated Plover (*Ægialitis semipalmata*). L. 6.7. Web between bases of inner and middle toes. *Ads. One* black ring around neck; a white ring in front of it. *Yng.* Similar, but black parts brownish; back margined with whitish. *Winter.* Same as last but no whitish margins.

Range.—Breeds from Labrador northward; winters from Gulf States to Brazil.

275. Ring Plover (*Ægialitis hiaticula*). L. 7.5. No webs between toes. Similar to 274 but larger, bill yellow at base, black or brown bands wider.

Range.—"Northern parts of Old World and portions of Arctic America, breeding on the west shore of Cumberland Gulf." (A. O. U.)

277. Piping Plover (*Ægialitis meloda*). L. 7; B. short, .5. Very pale above. *Ads.* Above ashy, crown and *sides* of breast black; no rusty. *Yng.* Similar, but black replaced by ashy gray. *Notes.* A short plaintive, *piping* whistle, repeated.

Range. Eastern North America; breeds from Virginia to Newfoundland; winters from Florida southward.

277a. Belted Piping Plover (*Æ. m. circumcincta*). Similar to No. 277 but black on sides of breast meeting to form a breast band.

Range.—Mississippi Valley; breeds from northern Illinois and Nebraska north to Lake Winnipeg, east to Magdalen and Sable Islands; winters from Gulf southward; casual migrant on Atlantic coast.

278. Snowy Plover (*Ægialitis nivosa*). L. 6.5. No complete ring. *Ads.* Black on crown; ear-coverts and sides of breast black. *Yng.* The same, but no black; above margined with whitish. *Winter.* Same as last but no whitish margins.

Range.—Western United States east to Texas and Kansas; breeds from Indian Territory and southern California northward; winters from Texas and southern California southward.

280. Wilson Plover (*Ochthodromus wilsonius*). L. 7.5; B. .8. No black on hind-neck. *Ad.* ♂. One black breast-band and crown-band; some rusty about head. *Ad.* ♀. Similar but black areas brownish gray. *Yng.* Same as last, but above margined with whitish. *Winter.* No whitish margins.

Range.—Tropical and temperate America; breeds north to Virginia, Gulf States, and Lower California, winters southward to Brazil; casual north to Nova Scotia.

Order X. GROUSE, PARTRIDGES, BOB-WHITES, Etc.

GALLINAE.

Family 1. GROUSE, PARTRIDGES, etc. Tetraonidæ. 21 species, 22 subspecies.

Family 2. TURKEYS, PHEASANTS, etc. Phasianidæ. 1 species. 3 subspecies.

Family 3. CURASSOWS and GUANS. Cracidæ. 1 species.

The members of the family Tetraonidæ are usually placed in three subfamilies as follows: (1.) Perdicinæ, containing the true Quails and Partridges of the Old World and with no species in America. (2.) Odontophorinæ, including the Bob-whites and so-called 'Quails' and 'Partridges' of the New World, and with no species in the eastern hemisphere. (3.) Tetraoninæ, the Grouse, with representatives in the northern parts of both hemispheres. All the members of the first two families have the legs bare, while the Grouse have the legs, and often even the toes, more or less feathered.

The application of different names to the members of this family, in various parts of the country, often make it uncertain just what species is referred to under a given title. Our Bob-white, for example, is a 'Quail' at the north and a 'Partridge' at the south. As a matter of fact it is, strictly speaking, neither a true Quail nor Partridge but a member of a family restricted to America.

Again, the Ruffed Grouse is a 'Partridge' at the north and a 'Pheasant' at the south, whereas in truth it is neither one nor the other. So far as the application of these local names goes, it is to be noted that where the Bob-white is called 'Quail' the Grouse is called 'Partridge' and that where it is called 'Partridge' the Grouse is known as 'Pheasant'.

All the Tetraonidæ are ground-inhabiting birds, and their plumage of blended browns, buffs and grays brings them into such close harmony with their surroundings that, as a rule, we are unaware of the presence of one of these birds until, with a whirring of short, stiff, rounded wings it springs from the ground at our feet. It is this habit of 'lying close,' as sportsmen term it, in connection with their excellent flesh, which makes the members of this family the favorites of the hunter and epicure and only the most stringent protective measures will prevent their extinction as their haunts become settled.

With the Ptarmigan this harmony in color is carried to a remarkable extreme, the birds being white in winter and brown, buff and black in summer; while during the early fall they assume a grayish, neutral tinted plumage to bridge over the period from the end of the nesting season, in July, to the coming of the snow in September.

The Tetraonidæ all nest on the ground, laying usually from ten to twenty eggs. The young, like those of their relative, the domestic fowl, are born covered with downy feathers and can run about shortly after birth.

The Turkey is the only wild member of the Phasianidæ in this county, but the family is well-represented in the domesticated Chickens, Peacocks, and Pheasants, all of which have descended from Old World ancestors. Our domesticated Turkey is derived from the Wild Turkey of Mexico, which was introduced into Europe shortly after the Conquest and was thence brought to eastern North America. It differs from the Wild Turkey of the eastern United States chiefly in the color of the tips of the upper tail-coverts. These are whitish in the domesticated Turkey, as they are in the Mexican race from which it has descended, and rusty brown in the Eastern Wild Turkey.

Besides the five races of Wild Turkey described beyond, another species of Turkey is found in America. This is the Honduras or Yucatan Turkey, now largely confined to the peninsula of Yucatan. It is not so large as our bird, but is even more beautifully colored, its plumage being a harmonious combination of blue, gray and copper.

Ring-necked and 'English' Pheasants have been introduced into various parts of the United States, and in Oregon and Washington and in the east, on various private game preserves, they have become naturalized. The true English Pheasant (*Phasianus colchicus*) is believed to have been introduced into England from Asia Minor probably by the Romans. Unlike the Ring-necked Pheasant (*Phasianus torquatus*) it has no white collar. The last named species, however, has also been introduced into England where it freely interbreeds with the earlier established English Pheasant and individuals without at least a trace of white on the neck are now comparatively rare.

The Curassows and Guans are tropical American birds, only one species reaching the southern border of the United States. They are arboreal in habit and form an interesting link between the Partridges, etc. and the Pigeons.

289. Bob-white; 'Quail;' 'Partridge' (*Colinus virginianus*). L. 10. *Ad.* ♂. Throat, forehead and line over eye white. *Ad.* ♀. Throat, forehead and line over eye buff. *Notes* Song, a ringing, whistled *Bob-white* or *buck-wheat-ripe*; calls, a conversational *quit-quit* and a whistled *whère-are-you* and *I'm here*, repeatedly uttered when the individuals of a flock are separated.

Range.—Eastern North America, resident from southern Dakota, southern Minnesota, southern Ontario, southern Vermont, New Hampshire and Maine, south to Georgia and western Florida; west to South Dakota, Nebraska, Kansas, Oklahoma, and eastern Texas. "Introduced at various points in Colorado, New Mexico, Utah, Idaho, California and Washington." (A. O. U.)

289

289a. Florida Bob-white (*C. v. floridanus*). Similar to No. 289, but smaller, L. 8.5, and much darker; black bars below more numerous.

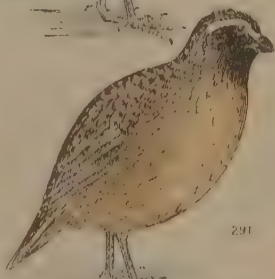
Range.—Florida; typical only in southern half of peninsula, grading into No. 289 in northern and western parts of the state.

289b. Texan Bob-white (*C. v. texanus*). Similar to No. 289, but brown and buff areas paler; black bars below wider.

289a

Range.—Texas, except western part, rarely to western Kansas, south to Nuevo Leon and Tamaulipas, Mexico.

291. Masked Bob-white (*Colinus ridgwayi*). L. 9. *Ad.* ♂. Throat black; breast and belly reddish brown. *Ad.* ♀. Resembles ♀ of No. 289b. *Notes.* Song, *Bob-white*; call, when the birds are scattered, *hoo-we.* (H. Brown.)


291

Range.—Northern Sonora, Mexico, north to Pima County, Arizona.

293. Mearns Partridge (*Cyrtonyx montezumæ mearnsi*). L. 9. *Ad.* ♂. Sides with numerous, large, crowded white spots. *Ad.* ♀. *Pinkish brown*, above *streaked* with buffy and marked with chestnut and black, below with a few broken black bars. *Notes.* A low, murmuring whine; a clear *dsiup-chiur*; when alarmed, *chuk-chuk-chuk.* (Bendire.)

293

Range.—Northern Mexico, western Texas, southern New Mexico and southern Arizona.

292. Mountain Partridge (*Oreortyx pictus*). L. 11. *Ads.* *Hindhead* and *nape* same color as back; inner margins of tertials buff. *Notes.* Song, an explosive whistle ending in a throaty tone; call, a rapidly repeated *cuh-cuh-cuh-cuh*, and a sharp *pit-pit*.

Range.—Pacific coast from Santa Barbara, California, north to southern Washington.

292a. Plumed Partridge (*O. p. plumiferus*). Hindhead, nape, and foreback same *color as breast*; inner margins of tertials *white*.

Range.—Sierra Nevada (both slopes), east to Panamint Mountains and to Mount Wrangler, Nevada; south in the coast ranges from San Francisco Bay to Lower California (Campos). (A. O. U.)

292b. San Pedro Partridge (*O. p. confinis*). Similar to No. 292a, but upperparts much grayer, the back, rump, and upper tail-coverts being gray very slightly tinged with olive; bill stouter. (Ridgway.)

Range.—San Pedro Martir Mountains, Lower California.

293. Scaled Partridge (*Callipepla squamata*). L. 10. *Ads.* Belly *without* chestnut patch; breast and foreback grayish blue edged with black; back brownish gray. *Notes.* A nasal *pe-cos' pe-cos'* (Bailey.)

Range.—"Tableland of Mexico, from the Valley of Mexico, north to central and western Texas, Santa Fe, New Mexico and southern Arizona." (A. O. U.)

293a. Chestnut-bellied Scaled Partridge (*C. s. castanogastris*). Similar to No. 293, but ♂ with chestnut patch on belly; ♀ with belly much rustier than in ♀ of No. 293.

Range.—Lower Rio Grande Valley, northwest to Eagle Pass, Texas; south into northeastern Mexico.

294. California Partridge (*Lophortyx californica*). L. 10. *Ad.* ♂. Above *olive-brown*; belly patch chestnut. *Ad.* ♀. Plumes shorter; throat whitish streaked with dusky; no distinct chestnut patch on belly. *Notes.* Song, a pheasant like crow and a crowing, emphatic *sit-right-down*, *sit-right-down*; calls, a sharp *pit-pit pit*, and a note like that of a young Robin.

Range.—"Coast region of California south to Monterey. Introduced in Oregon, Washington, and British Columbia." (A. O. U.)

294a. Valley Partridge (*L. c. vallicola*). Similar to No. 294, but much grayer above; sometimes plain bluish gray without brown tinge.

Range.—"From western and southern Oregon, except near the coast, south through western Nevada and the interior of California to Cape St. Lucas." (Bendire.)

295. Gambel Partridge (*Lophortyx gambelii*). L. 10. *Ad.* ♂. Throat, forehead and belly patch *black*; hindhead chestnut. *Ad.* ♀. Similar, but throat grayish buff; forehead gray; no black on belly; hindhead brownish; crest smaller. *Notes.* Song, *yuk-kăr'-ja*.

Range.—"Western Texas, New Mexico, Arizona, southern Utah, southern Nevada, southern California in the Colorado Valley and south into northwestern Mexico." (A. O. U.)

297. Dusky Grouse (*Dendragapus obscurus*). L. ♂, 20; ♀, 18. *Ad.* ♂. Gray tail-band *over* one inch wide on middle feather; below grayish slate; above blackish with fine rusty and grayish markings. *Ad.* ♀. With more white below; foreback regularly *barred* with buffy; middle tail-feathers irregularly barred with buff or grayish; terminal gray band finely marked with black. *Notes.* A loud, ventriloquial, hooting or booming.

Range.—"Rocky Mountains, from central Montana and southeastern Idaho to New Mexico and Arizona; east to the Black Hills, South Dakota and west to East Humboldt Mountains, Nevada." (A. O. U.)

297a. Sooty Grouse (*D. o. fuliginosus*). Similar to No. 297, but slightly darker, gray band on central tail feather *less* than one inch wide.

Range.—"Northwest Coast Mountains, from California to Sitka, east to Nevada, western Idaho and portions of British Columbia." (A.O.U.)

297b. Richardson Grouse (*D. o. richardsonii*). Similar to No. 297a, but *no* tail band, or, if showing indistinctly from above, not visible from below.

Range.—"Rocky Mountains, especially on the eastern slopes, from central Montana, northern Wyoming and southeastern Idaho, into British America to Liard River." (A. O. U.)

297.

298. Hudsonian Spruce Grouse (*Canachites canadensis*). L. 15. *Ad.* ♂. Tail-feathers tipped with brown; foreback margined with *bluish gray*. *Ad.* ♀. Above, bases of feathers more or less barred with rusty especially on foreback; throat and breast barred with rusty and black; belly as in male. *Notes.* A drumming sound produced by the beating of the wings. (Bendire.)

Range.—Labrador and Hudson Bay region.

298.

298b. Alaska Spruce Grouse (*C. c. osgoodi*). *Ad.* ♂. Similar to *Ad.* ♂ of No. 298c, but margins to feathers of foreback *brownish ashy*. *Ad.* ♀. Similar to *Ad.* ♀ of No. 298c, but paler, barred with buff instead of rusty.

Range.—Alaska.

298c. Canada Grouse (*C. c. canace*). *Ad.* ♂. Similar to *Ad.* ♂ of No. 298. *Ad.* ♀. Similar to *Ad.* ♀ of No. 298, but above more rusty, rusty bars deeper and more conspicuous, showing throughout upper surface and on flanks.

Range.—Northern New England, northern New York, New Brunswick, Nova Scotia and Quebec west to northern Minnesota.

299.

299. Franklin Grouse (*Canachites franklinii*). Resembles No. 298, but tail without brown tips, sometimes tipped with white.

Range.—"Northern Rocky Mountains, from northwestern Montana to the coast ranges of Oregon and Washington, and northward in British America, reaching the Pacific coast of southern Alaska (latitude 60°)." (A. O. U.)

300. Ruffed Grouse; 'Partridge;' 'Pheasant' *(Bonasa umbellus)*. L. 17. *Ad.* ♂. Prevailing color above rusty brown; tail rusty or gray. *Ad.* ♀. Similar but neck-tufts smaller. *Notes.* The male produces a drumming sound by rapidly beating its wings; the female utters a *cluck* and when defending her brood, a singular low whining sound.

Range.—Eastern United States from Minnesota, southern Ontario, southern New Hampshire and southern Vermont, south to Virginia and along the Alleghanies to Georgia; west to northwestern Arkansas.

300a. Canadian Ruffed Grouse *(B. u. togata)*. Similar to No. 300, but slightly grayer above; tail generally gray; bars on breast and belly darker and better defined.

Range.—Spruce forests of New Brunswick, Nova Scotia, Maine northern New Hampshire, northern Vermont and south to higher mountains of Massachusetts and northern New York; west to eastern slope of coast ranges of Oregon, Washington and British Columbia; north to James Bay.

300b. Gray Ruffed Grouse *(B. u. umbelloides)*. Similar to No. 300a, but grayer; prevailing color of upper-parts, including crown, gray; tail always gray.

Range.—Rocky Mountains, from Colorado north to latitude 65° in Alaska, east to Mackenzie and poplar woods of western Manitoba.

300c. Oregon Ruffed Grouse *(B. u. sabini)* Similar to No. 300, but much darker, prevailing color of upper parts rusty brown; tail always rusty brown.

Range.—Pacific coast ranges from Cape Mendocino, California, north to British Columbia.

301. Willow Ptarmigan (*Lagopus lagopus*). L. 15. Bill large, more than .4 deep at base; tail *black*, narrowly tipped with white. *Ad. ♂ Summer.* Throat and upper breast rusty brown. *Ad. ♂ Fall.* Rustier and more finely marked above. *Ad. ♀ Summer.* Above black barred with buff and tipped with white; below buff barred with black; middle of belly whitish. *Ad. ♀, Fall.* Much like fall male. *Ads., Winter.* White, tail black tipped with white; *no* black before eye. *Notes.* Song, *kû-kû-kû-kû* while ascending five or ten yards in the air; a hard rolling *kr-r-r-r* when descending. (Nelson.)

Range.—Arctic Regions; in America breeding south to Lat. 55° in winter migrating south to Lat. 50°; recorded once from Penobscot Co., Maine, and once from Manchester, Mass.

301a. Allen Ptarmigan (*L. l. alleni*). Similar to No. 301, but ♀ more finely marked; shafts of primaries, at all seasons, strongly black spreading to the web of the feather.

Range.—Newfoundland.

302. Rock Ptarmigan (*Lagopus rupestris*). L. 14. Bill *less* than .4 deep at base; tail black. Always to be known from No. 301 by its smaller bill. *Ad. ♂ Summer.* Above irregularly barred and mottled with gray and rusty buff; below barred black and white and rusty buff. *Ad. ♂ Fall.* Above minutely speckled black, gray and buff, the prevailing color being grayish brown. *Ad. ♂ Winter.* White, lores and tail black. *Ad. ♀ Summer.* Above black barred with rusty and margined with whitish; below rusty barred with black and tipped with whitish. *Ad. ♀ Fall.* Like fall ♂. *Ad. ♀ Winter.* Like winter ♂ but no black before eye.

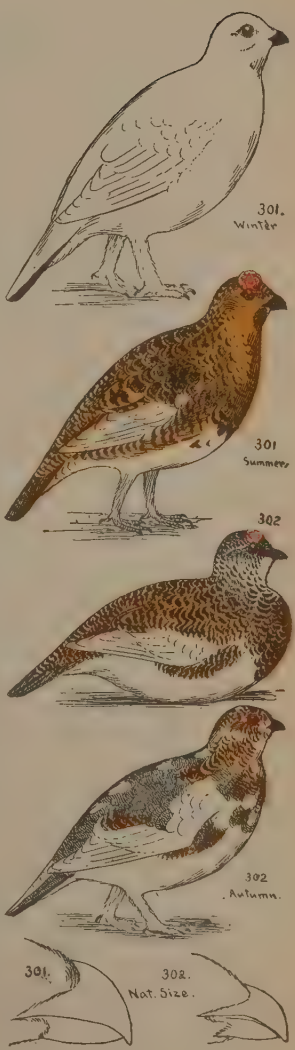
Range.—North America from Gulf of St. Lawrence and higher mountains of British Columbia north to Arctic Regions (except northern Labrador) west through Alaska to Aleutian Islands.

302a. Reinhardt Ptarmigan (*L. r. reinhardti*). *Ad. ♂ Summer.* Similar to No. 302, but "less regularly and coarsely barred above" (Ridgw.) *Ad. ♀ Summer.* Resembles ♀ of No. 302. *Ads. Fall* Much grayer than No. 302 in fall. *Ads., Winter.* Like No. 302 in winter. *Notes.* When courting the male utters a growling *kurr-kurr.* (Turner.)

Range.—Northern Labrador north to Greenland.

302b. Nelson Ptarmigan (*L. r. nelsoni*). *Ad. ♂, Summer.* Ground color of upperparts deep umber-brown, very finely and densely vermiculated; chest barred with bright tawny brown and black. *Ad. ♀, Summer.* Similar to ♀ of No. 302. (Ridgw.)

Range.—Unalaska, Aleutian Islands.



302c. Turner Ptarmigan (*L. r. atkhensis*). Lighter in general hue than 302d and without black blotches on upperparts. (Elliot.) *Ad.* ♂, *Summer.* "Ground color of upperparts pale raw-umber brown, mixed with pale grayish; chest and neck barred with pale brownish ochre and black." *Ad.* ♀, *Summer.* Ground color of upperparts rusty, mixed with pale grayish buff, narrowly and irregularly barred with black; chest and neck coarsely barred with rusty and black. (Ridgw.)

Range.—Atka, Aleutian Islands.

304

302.1

302d. Townsend Ptarmigan (*L. r. townsendi*). *Ad.* ♂, *Summer.* Above, breast and flanks raw umber finely vermiculated with black on back; with black blotches on head, neck and upperpart of back and wings. *Ad.* ♀, *Summer.* Above ochraceous, blotched and barred with black; lighter below. (Elliot.)

Range.—Kyska and Adak, Aleutian Islands.

302.1. Evermann Ptarmigan (*Lagopus evermanni*). L. 13.9. *Ad.* ♂, *Summer.* Above and breast black slightly marked with rusty. *Ad.* ♀, *Summer.* Entire body plumage, ochraceous, blotched and barred with black and above tipped with white or ochraceous; below black bars wider and no white tips. (Elliot.)

Range.—Attu, Aleutian Islands.

303. Welch Ptarmigan (*Lagopus welchi*). L. about 14. Bill and tail as in No. 302; plumage grayer than in No. 302. *Ad.* ♂, *Summer.* Above black *finely* and irregularly marked with wavy lines of buff and white. *Ad.* ♀, *Summer.* Above black *finely* and irregularly barred with buffy, grayish and white.

Range.—Newfoundland.

304.? White-tailed Ptarmigan (*Lagopus leucurus*). L. 13. Tail *white*. *Ad.* ♂, *Summer.* Breast barred, black and white. *Ad.* ♀, *Summer.* Above black barred with rich buff; below rich buff barred with black. *Ads., Fall.* Above and breast rich buff finely vermiculated with black. *Ads., Winter.* Entirely white. *Notes.* When about to fly and at the beginning of flight a sharp cackle like that of a frightened hen. (Grinnell.)

Range.—"Alpine summits of Rocky Mountains; south to New Mexico; north into British America (as far as Fort Halkett, Liard River); west to higher ranges of Oregon, Washington, and British Columbia." (Bendire.)

304a.? Kenai White-tailed Ptarmigan (*L. l. peninsularis*). Similar to No. 304, but in summer buff markings much paler; in fall, colors much grayer.

Range.—Kenai Peninsula, Alaska.

305. Prairie Hen (*Tympanuchus americanus*). L. 18. Underparts with distinct brown and white bars of about equal width. *Ad* ♂. A neck-tuft of ten or more *rounded* feathers. *Ad.* ♀. Neck-tufts much smaller; whole tail barred. *Notes.* Song, a loud "booming."

Range.—"Prairies of Mississippi Valley; south to Louisiana and Texas; east to Kentucky, Indiana, Ohio, Michigan and Ontario; west through eastern portions of North Dakota, South Dakota, Nebraska, Kansas and Indian Territory; north to Manitoba; general tendency to extension of range westward and contraction eastward; migration north and south in Minnesota, Iowa and Missouri." (A. O. U.)

305a. Attwater Prairie Hen (*T. a. attwateri*). Similar to No. 305, but smaller and darker; neck-tufts proportionately wide; tarsus not fully feathered.

Range.—Southwestern Louisiana and eastern Texas.

306. Heath Hen (*Tympanuchus cupido*). Similar to No. 305, but smaller; scapulars more broadly tipped with buff; neck-tuft of *less* than ten feathers; obtusely *pointed*; axillars *barred* with dusky.

Range.—Martha's Vineyard, Massachusetts.

307. Lesser Prairie Hen (*Tympanuchus pallidicinctus*). Similar to No. 305, but smaller, more buffy above; brown bars below narrower than whitish spaces between them. *Notes.* Doubtless the same as those of No. 305.

Range.—Southwestern parts of Kansas and western Indian Territory, western (and southern?) Texas. (Bendire.)

308. Sharp-tailed Grouse (*Pediœcetes phasianellus*). L. 17. Breast feathers with internal **V** shaped *loops*; no neck-tufts. *Ads.* Prevailing color above *black*; narrowly barred with rusty and margined with paler.

Range—Interior of British America, east to Rocky Mountains, about James Bay (Moose Factory) and the west shore of Hudson Bay, northern Manitoba, north at least to Fort Simpson, Mackenzie River, northwest territory. (Bendire.)

308a. Columbian Sharp-tailed Grouse (*P. p. columbianus*). Similar to No. 308, but prevailing color above buffy.

Range.—"Northwest United States; south to northeastern California, northern Nevada and Utah; east to Montana and Wyoming, west to Oregon and Washington; north, chiefly west of Rocky Mountains, through British Columbia to central Alaska (Fort Yukon)" (Bendire.)

308b. Prairie Sharp-tailed Grouse (*P. p. campestris*). Similar to No. 308a, but more rusty. *Notes.* Song, a bubbling crow, a rattling of tail-feathers, and stamping of feet. Calls, when disturbed, *cack, cack, cack*; a soft clear whistle and a grunt of alarm. (Seton.) Call of mother to young and of young in reply a guttural, raucous croak. (Grinnell.)

Range.—"Plains and prairies of United States, north to Manitoba; east to Wisconsin and northern Illinois; west to eastern Colorado; south to eastern New Mexico." (Bendire.)

309. Sage Grouse (*Centrocercus urophasianus*). *Ad.* ♂, L. 29; *Ad.* ♀, L. 22. Similar to ♂, but smaller, throat whiter; breast barred black and whitish. *Notes.* When courting, low, grunting, guttural sounds; when alarmed, a sort of cackle, *kak, kak.* (Bendire.)

Range.—"Sage regions of the Rocky Mountain Plateau, and west chiefly within the United States, but north to Assiniboia and the dry interior of British Columbia; east to North Dakota, South Dakota, Nebraska and Colorado; south to northern New Mexico, Utah and Nevada; west in California, Oregon and Washington, to the Sierra Nevada and Cascade Range." (A. O. U.)

Pheasant (*Phasianus torquatus* x *P. colchicus*). An introduced species, see remarks on page 114.

310. Wild Turkey (*Meleagris gallopavo silvestris*). ♂ *Ad.* L. about 48; upper tail-coverts and tail tipped with rusty chestnut; white bars in primaries entire, crossing the webs of the feathers. *Notes.* Similar to those of the domesticated Turkey.

Range.—Eastern United States from Pennsylvania south to central Florida; west to Nebraska and northeastern Texas.

310a. Merriam Turkey (*M. g. merriami*). Similar to No. 310, but tail and upper tail-coverts tipped with whitish.

Range.—"Mountains of southern Colorado, New Mexico, Arizona and western Texas; and northern Chihuahua and Sonora, Mexico." (Bailey.)

310b. Florida Wild Turkey (*M. g. osceola*). Similar to No. 310, but smaller; primaries with narrow *broken* bars *not* reaching across feather.

Range.—Southern Florida.

310c. Rio Grande Turkey (*M. g. intermedia*). Tips of upper tail-coverts and of tail rusty buff intermediate in color between those of Nos. 310 and 310a.

Range.—"Lowlands of southern Texas and northeastern Mexico." (A. O. U.)

311. Chachalaca (*Ortalis vetula maccalli*). L. 21. *Ads.* Above olive-brown; tail blacker, all but middle feathers bordered with whitish; belly brownish. *Notes.* A loud, trumpeting *cha-cha-laca*, repeated a number of times.

Range.—Tropical portions of eastern Mexico, from Vera Cruz north to Lower Rio Grande Valley.

Order XI. PIGEONS AND DOVES.

COLUMBÆ.

Family 1. PIGEONS and DOVES. Columbidæ. 13 species, 3 subspecies.

Pigeons are distributed throughout the greater part of the globe, but their center of abundance appears to be in the Malay Archipelago, where about one hundred and twenty of the some three hundred known species are found. One hundred or more species have been described from the New World but only twelve of these inhabit North America.

The various races of domestic Pigeons, 'Pouters,' 'Fantails,' etc. are descendants of the Rock Dove of Europe, modified in form and habit through the selection by the breeder or 'fancier.'

Pigeons build a flimsy, platform nest of twigs and lay two white eggs. Both sexes incubate, one relieving the other at certain hours each day. The young are born naked and are fed by regurgitation, on 'Pigeons' milk,' the parent thrusting its bill into the mouth of its young and discharging therein food which has been softened in its own crop.

Some species of Pigeons nest in isolated pairs, others in large colonies, but it is the habit of many species to gather in large flocks after the nesting season.

The Wild or Passenger Pigeon, once so abundant in this county, was found in flocks throughout the year. Alexander Wilson, the 'father of American Ornithology' writing about 1808, estimated that a flock of Wild Pigeons seen by him near Frankfort, Kentucky, contained at least 2,230,272,000 individuals. Audubon writes that in 1805 he saw schooners at the wharves in New York city loaded in bulk with Wild Pigeons caught up the Hudson River, which were sold at one cent each.

As late as 1876 or 1877 there was a colony of nesting Wild Pigeons in Michigan, which was twenty-eight miles long and averaged three or four miles in width, and in 1881 the birds were still so abundant in parts of the Mississippi Valley that the writer saw thousands of birds, trapped in that region, used in a Pigeon match near New York City.

Today, however, as a result of constant persecution, the Wild Pigeon is so rare that the observation of a single individual is noteworthy.

312. Band-tailed Pigeon (*Columba fasciata*). L. 15. *Ad.* ♂. Tail-band ashy above, whiter below; a white nape-band; tail square. *Ad.* ♀. Similar, or in some specimens, nape band absent; pinkish of crown and breast dingy. *Notes.* An owl-like hooting, sometimes a calm *whoo-hoo-hoo, whoo-hoo-hoo*, at others a spirited *hoop-ah-whoo*, and again *whoo-ugh.* (Bailey.)

Range.—"Western United States from Rocky Mountains to the Pacific; north to Washington and British Columbia; south to Mexico and the highlands of Guatemala; distribution irregular, chiefly in wooded mountain regions." (A. O. U.)

312a. Viosca Pigeon (*C. f. vioscæ*). Similar to No. 312, but paler, more clearly bluish slate above; pink of crown and breast with a grayish *bloom.*

Range.—Cape Region of Lower California.

313. Red-billed Pigeon (*Columba flavirostris*). L. 15. *Ads.* No tail-band; wings, tail, and belly slate; head and neck purplish pink; no iridescent markings. *Notes.* A fine, loud, *coo-whoo-er-whoo.*

Range.—Costa Rica migrating north to southern Texas, New Mexico and Arizona.

314. White-crowned Pigeon (*Columba leucocephala*). L. 13.5 *Ad.* ♂. Crown white; body slate; lower hindneck iridescent; nape maroon. *Ad.* ♀. Much paler; crown ashy.

Range.—Greater Antilles and islands about Anegada Channel, coast of Honduras, Bahamas and certain Florida Keys.

315. Passenger Pigeon, Wild Pigeon (*Ectopistes migratorius*). L. 16. Outer tail-feathers chestnut at base of inner web. *Ad.* ♂. *Chin*, whole head, and lower back bluish slate. *Ad.* ♀. Browner above, breast brownish ashy; neck feathers less iridescent. *Notes.* An explosive, squeaky, squawk.

Range.—Formerly eastern North America north to Hudson Bay; now exceedingly rare, less so in the upper Mississippi valley than elsewhere.

316. Mourning Dove, Carolina Dove (*Zenaidura macroura*). L. 11.8. Outer tail-feathers slate color at base of inner web. *Ad.* ♂. Chin whitish; sides of head buffy; *a black ear mark*. *Ad.* ♀. Similar but paler, breast more ashy brown, neck-feathers less iridescent. *Notes.* *Coo-o-o-ah*, *coo-o-o-coo-o-o-coo-o-o.*

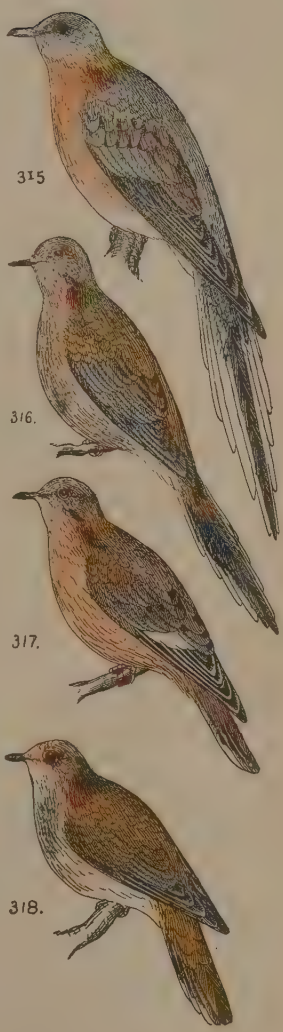
Range.—North America, breeding from West Indies and Mexico north to southern Maine, Quebec, Ontario, Manitoba and British Columbia; winters from southern New York, southern Illinois, Kansas and southern California southward.

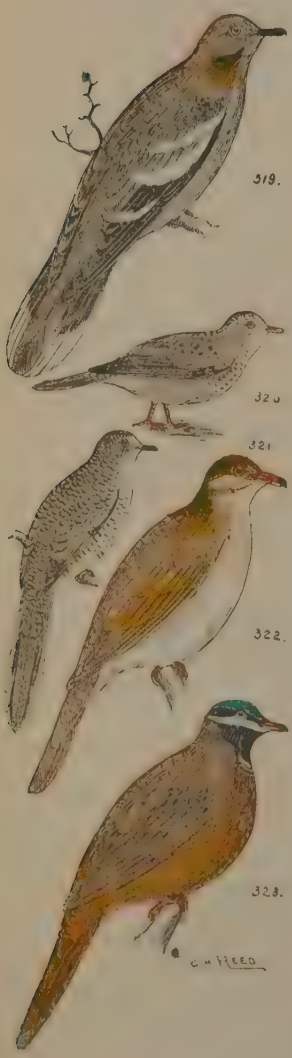
317. Zenaida Dove (*Zenaida zenaida*). L. 10. *Ad.* ♂. Tail short, *without* white markings; all but central pair of feathers tipped with ashy blue; secondaries tipped with white. *Ad.* ♀. Similar but pinkish of crown and underparts brownish; neck feathers less iridescent. *Notes.* Resemble those of No. 316, but are louder and deeper.

Range.—Greater Antilles, coast of Yucatan and Bahamas, north in April to Florida Keys.

318. White-fronted Dove (*Leptotila fulviventris brachyptera*). L. 12. No black ear-mark; under wing-coverts rusty chestnut. *Ad.* ♂. Forehead whitish; all but central pair of tail-feathers tipped with white. *Ad.* ♀. Forehead dingier; breast brownish ashy; neck feathers less iridescent. *Notes.* A short, soft *coo.*

Range.—Central America and Mexico, north in February to valley of Lower Rio Grande.





319. White-winged Dove (*Melopelia leucoptera*). L. 12. Wing-coverts, externally, widely margined with white; large black ear marks. *Ads.* All but central pair of tail-feathers bluish slate with a black band and whitish tip. *Notes.* A loud, crowing *cookeree-cookeree-coo-ree-coo, crow-co-er-coo, crow-co-er-coo.*

Range.—Southern border of United States from Texas to Arizona, south to Lower California and Central America, Cuba and Jamaica, casual at Key West, Florida.

320. Ground Dove; Mourning Dove (*Columbigallina passerina terrestris*). L. 6.7. Smallest of our Doves. *Ad.* ♂. Forehead and underparts deep vinaceous pink; hindhead and nape ashy blue margined with dusky; base of bill *coral*, tip black. *Ad.* ♀. Forehead and breast brownish gray; breast feathers with dusky centers and margins. *Notes.* A soft, crooning *coo.*

Range.—Atlantic and Gulf States north to northern North Carolina, west to eastern Texas; more common near coast.

320a. Mexican Ground Dove (*C. p. pallescens*). Similar to No. 320, but forehead and underparts much paler; back grayer.

Range.—Texas to southern California and south to Central America.

320b. Bermuda Ground Dove (*C. p. bermudiana*). Similar to 320a, but smaller and paler; bill wholly black. (Bangs and Bradlee.)

Range.—Bermuda.

321. Inca Dove (*Scardafella inca*). L. 8. *Ads.* Tail long, outer feathers tipped with white; plumage above and below margined with dusky, giving a scaled appearance.

Range.—Southern Texas (San Antonio), southern Mexico and southern Arizona south to Lower California and Central America.

322. Key West Quail-Dove (*Geotrygon chrysia*). L. 12. *Ads.* A white line below eye; belly white; back rich rusty with beautiful, metallic, purplish, *green* and *blue* reflections; tail rusty with no white.

Range.—Cuba, Hayti, Bahamas and, rarely, Florida Keys.

322.1. Ruddy Quail-Dove (*Geotrygon montana*). L. 11. *Ad.* ♂. No white line below eye; breast dull pinkish; belly deep buff; back rich rusty with purplish reflections, tail rusty without white. *Ad.* ♀. Above olive-brown with greenish reflections; below rusty buff.

Range.—Mexico south to Brazil; West Indies; casual at Key West Florida

323. Blue-headed Quail Dove (*Starnœnas cyanocephala*). L. 12. *Ads.* Crown and sides of throat dull blue; middle of upper breast black with white bars and pinkish tips; belly rusty brown, lower back as in No. 316. *Notes.* A hollow sounding *hu-ub*, the first syllable long, the second short. (Gundlach.)

Range.—Cuba, and rarely Florida Keys.

Order XII. VULTURES, HAWKS, AND OWLS.

RAPTORES.

Family 1. AMERICAN VULTURES. Cathartidæ. 3 species.
Family 2. FALCONS, HAWKS, EAGLES, etc. Falconidæ. 33 species, 13 subspecies.
Family 3. BARN OWLS. Strigidæ. 1 species.
Family 4. HORNED OWLS. Bubonidæ. 19 species, 20 subspecies.

In the Raptores we have a group of birds of great value to man but whose services for the most part, are so little appreciated that, far from protecting these birds, we have actually persecuted them.

The Vultures, it is true, are given credit for their good work as scavengers and they are protected both by law and by public sentiment. Every one knows that a living Vulture is infinitely more useful than a dead one. As a result throughout countries inhabited by these birds they are usually both abundant and tame, entering the cities to feed in the streets with an assurance born of years of immunity from harm.

But how differently their kin of the family Falconidæ act in their relations to man! 'Wild as a Hawk' has become an adage. These birds are universally condemned. To kill one is a commendable act. Every ones hand is raised against them. In some localities a price has actually been set upon their heads.

A fondness for chickens, it is alleged, is the chief crime of Hawks, and in popular parlance all Hawks are 'Chicken Hawks' and as such are to be killed on sight.

Naturalists have long been aware that only one of our common Hawks habitually preys upon poultry while most of our species, by feeding largely on meadow mice, are actually beneficial. It was not, however, until this matter received the attention of the Biological Survey of the United States Department of Agriculture, that the economic status of Hawks, as well as of Owls, was placed on a sound scientific basis. In Dr. A. K. Fisher's report on the food of Hawks and Owls, issued by the Biologic Survey in 1893, the results of the examination of the contents of several thousands stomachs of these birds is tabulated. It is stated, for example, that only three out of two hundred and twenty stomachs of the so-called 'Chicken' or Red-

shouldered Hawk contained the remains of poultry, while mice were found in no less than one hundred and two, and insects in ninety-two.

That the Sparrow Hawk is also wrongly named is clear from a study of its food, only fifty-four out of three hundred and twenty stomachs examined containing remains of birds, while insects were found in two hundred and fifteen.

As a matter of fact, among our commoner Hawks, the Cooper and Sharp-shinned are the only ones feeding largely on birds and poultry, and if the farmer will take the pains to ascertain what kind of Hawk it is that pays unwelcome visits to his barn-yard, he will be spared the injustice of condemning all Hawks for the sins of one or two.

Feeding after sunset, when the small mammals are most active, Owls are even more beneficial than Hawks. The Great Horned Owl, it is true, has an undue fondness for poultry, but the bird is generally so rare near thickly populated regions that on the whole it does comparatively little harm.

Fortunately, it is those Owls which are most common in settled regions which are of most value to man. Thus, our little Screech Owl feeds chiefly on mice and insects. Only one of the two hundred and fifty-five stomachs examined by Dr. Fisher contained the remains of poultry while mice were found in ninety-one and insects in one hundred. Of the Short-eared or Marsh Owl, seventy-seven out of one hundred and one stomachs contained mice remains, and the same injurious little rodents were found in eighty-four out of one hundred and seven stomachs of the Long-eared Owl.

The bones and hair of the small mammals eaten by Owls are rolled into oblong pellets in the stomach and are ejected at the mouth. These pellets may often be found in large numbers beneath the roosts in which Owls pass the day. In 200 such castings of the Barn Owl Dr. Fisher found the remains of 454 small mammals of which no less than 225 were meadow mice.

Hawks build large bulky nests of sticks placing them usually well up in large trees, and lay, as a rule, four eggs which are generally whitish, blotched with brown. The Marsh Hawk is an exception. Its nest built largely of grasses, is placed on the ground in marshes and the eggs, often numbering six and rarely eight, are bluish white unmarked.

The Owls nest in holes in trees or banks, or, in some instances, an old Hawk or Crow nest may be occupied. The eggs usually number three to five and are always pure white.

324. California Vulture (*Gymnogyps californianus*). L. 44-55; Ex. 8 1-2 to nearly 11 feet. (Ridgw.) *Ads.* Head and neck orange, blue, and red, unfeathered; feathers around neck and on underparts narrow and stiffened; greater wing-coverts tipped with white; *under wing-coverts white.*

Range.—"Coast ranges of southern California from Monterey Bay, south to Lower California and east to Arizona" (Bailey). Recorded from Burrard Inlet, British Columbia (Fannin).

325. Turkey Vulture; Turkey Buzzard (*Cathartes aura*). L. 30; T. 11. *Ads.* Head and neck *red* unfeathered; brownish black; no white in plumage; bill whitish. *Notes.* A low hissing sound when disturbed.

Range.—Western Hemisphere from central and northeast New Jersey, central Illinois, northern Minnesota, the Saskatchewan region and British Columbia, south to Patagonia; winters from southern New Jersey, southern Illinois and southern California southward.

326. Black Vulture; Carrion Crow (*Catharista urubu*). L. 24. T. 8. *Ads.* Head and neck unfeathered, black, plumage black; *under surface of wings silvery. Notes.* A low grunting sound when disturbed.

Range.—Tropical America, north, as a resident to North Carolina, southern Illinois and southern Kansas; west to the Plains, south to northern South America, strays as far north as Maine and South Dakota.

364. American Osprey; Fish Hawk (*Pandion haliaëtus carolinensis*). L. 23. Nape white; feet large; no bars on primaries. *Ad.* ♂. Below white with few or no spots on breast. *Ad.* ♀. Similar, but breast with numerous grayish brown spots and streaks. *Notes* Loud, plaintive, whistles.

Range.—America; breeds from Florida, Texas and Lower California, north to Labrador, Great Slave Lake and northern Alaska; winters from South Carolina and Lower Mississippi Valley to northern South America.

327. Swallow-tailed Kite (*Elanoides forficatus*). L. 24. *Ads.* Back purplish black, wings and tail blue-black. *Notes.* A shrill, keen, *e-e-e* or *we-we-we.* (Bendire.)

Range.—Middle America; summers north to Virginia, central Illinois, northern Minnesota, Manitoba and Dakota; west to central Kansas, rarely to Colorado; winters in Central and South America.

328. White-tailed Kite (*Elanus leucurus*). L. 15.5. *Ads.* Shoulders black; back and middle tail-feathers ashy gray; rest of tail-feathers, forehead and underparts white. *Yng.* Upperparts with rusty. *Notes.* A plaintive, musical whistle. (Barlow.)

Range.—Middle America north to South Carolina, southern Illinois, Indian Territory, western Texas, Arizona and central California; south to Argentine Republic; rare east of the the Mississippi.

329. Mississippi Kite (*Ictinia mississippiensis*). L. 14. *Ads.* Head, ends of secondaries, and underparts bluish gray; back bluish slate; tail black without bars. *Yng.* Head streaked black and white; back blackish, tipped with rusty; tail with three or four broken white bars; underparts buffy, streaked with rusty and blackish.

Range.—Middle America; breeds north to South Carolina, southern Illinois and Kansas; winters in tropics.

330. Everglade Kite; Snail Hawk (*Rostrhamus sociabilis*). L. 18. Longer upper tail-coverts and base of tail white. *Ads.* Slaty black; end of tail with brownish and whitish bands. *Yng.* Above blackish brown tipped with rusty; below mottled rusty, blackish and buff.

Range. Tropical America north to southern Florida and eastern Mexico; south to Argentine Republic.

331. Marsh Hawk; Harrier (*Circus hudsonius*). L. ♂, 19; ♀, 22. Upper tail-coverts and base of tail white. *Ad.* ♂. Above gray or ashy; underparts with rusty spots. *Ad.* ♀, and *Yng.* Above brownish black with more or less rusty, particularly on the nape; below brownish rusty with black streaks on breast. *Notes.* A peevish scream and peculiar clucking or cackling. (Preston.)

Range.—North America, breeds locally north to about latitude 60°; winters from southern New York, northern Illinois, northern Kansas, Colorado and British Columbia south to Central America.

332. Sharp-shinned Hawk (*Accipiter velox*). L. ♂, 11.2; ♀, 13.5; T. ♂, 5.5; ♀, 7. Tail *square* at end. *Ads.* Above slaty gray; crown darker; below barred white and rusty brown. *Yng.* Above blackish brown lightly margined with rusty; below white streaked with brown. Note the relatively long tail in this and the two following species. *Notes.* *Cac-cac-cac.* (Ralph.)

Range.—North America; breeds throughout its range but chiefly northward; winters from Massachusetts and Vancouver Island southward.

333. Cooper Hawk (*Accipiter cooperii*). L. ♂, 15.5; ♀, 19; T. ♂, 7.7; ♀, 9. Similar in color to No. 332, but tail *rounded*; adult with crown blacker. *Notes.* A cackling or chattering. (Bendire.)

Range.—North America; breeds from southern Mexico north to British America; winters from Massachusetts, Lower Mississippi Valley and Oregon southward.

334. American Goshawk (*Accipiter atricapillus*). L. ♂, 22; ♀, 24; T. ♂, 10; ♀, 11.5. *Ads.* Above bluish slate; crown darker; a whitish line over the eye to the nape; below *finely* marked with gray and white. *Yng.* Above blackish brown, rusty and buff; below buffy white streaked with blackish.

Range.—North America; breeds chiefly north of United States; winters south to New Jersey, rarely Virginia, Illinois, Missouri and Kansas; west to Oregon.

334a. Western Goshawk (*A. a. striatulus*). Similar to No. 334, but *Ad.* dark plumbeous above, markings on lower parts heavier and darker. Stripes on lower parts of *Yng.* broader and blacker. (Ridgw.) *Notes.* A shrill scream and a frequently repeated *keeah* or *kreeah*. (Bendire.)

Range.—"Western North America; north to Sitka, Alaska; south to California; east to Idaho. Breeds in the Sierra Nevada south to latitude 38°." (A. O. U.)

346. Mexican Goshawk (*Asturina plagiata*). L. 17. *Ads.* Above slaty gray; below barred slaty-gray and white. *Yng.* Above blackish brown with rusty markings, particularly on wing-coverts; longer upper tail-coverts white with black spots or bars; tail brownish with numerous black bars; below whitish with large elongate spots. *Notes.* A peculiar piping note uttered while hovering in the air. (Bendire.)

Range.—Middle America, from Panama north, in March, to Mexican border of United States.

335.

337.

337a.

335. Harris Hawk (*Parabuteo unicinctus harrisi*) L. ♂, 19; ♀, 22. Longer upper tail-coverts, base and tip of tail white. *Ads.* Shoulders, thighs and under wing-coverts, reddish brown; under tail-coverts white. *Yng.* Similar but streaked below with rusty, buff and black; legs barred with white. *Notes.* A long, harsh, Buteo-like scream. (V. Bailey.)

Range.—Middle America from Panama north to southern Texas, rarely Mississippi and southern California.

337. Red-tailed Hawk (*Buteo borealis*). L. ♂, 20; ♀, 23. *Four* outer primaries notched. *Ads.* Tail rusty brown with a black band, sometimes broken, near its tip; below buffy white, a band of spots across the belly; legs usually without bars. *Yng.* Tail grayish brown with a rusty tinge and numerous blackish bars; upper tail-coverts barred black and white; below less buffy than in adult; legs more often barred. *Notes.* A shrill whistle, suggesting the sound of escaping steam.

Range.—Eastern North America, west to the Great Plains, north to about latitude 60°; breeds throughout its range; winters from Massachusetts, Illinois and South Dakota southward.

337a. Krider Hawk (*B. b. kriderii*). Similar to No. 337, but nearly or wholly white below. *Ads.* Usually without black tail band.

Range.—"Great Plains of United States from Minnesota to Texas; east irregularly or casually to Iowa and northern Illinois." (Bendire).

337b.

337d.

337b. Western Red-tail (*B. b. calurus*). Very variable in color. *Ads.* Sometimes sooty brown above and below with more or less rusty; in light phase resembles No. 337, but tail *averages* paler and sometimes has more than one bar; the underparts are deeper and legs are usually *barred with rusty*. *Yng.* Similar to *Yng.* of No. 337, but markings below heavier; flanks more barred.

Range.—Western North America from Rocky Mountains to Pacific; north to British Columbia, south to central America; generally resident.

337d. Harlan Hawk (*B. b. harlani*). *Ads.* Above sooty brown; tail closely *mottled* with blackish, rusty and whitish; below varying from white, more or less spotted on belly to sooty brown. *Yng.* Similar, but tail barred with blackish, gray, rusty or whitish.

Range.—"Gulf States and Lower Mississippi Valley, north (casually) to Kansas, Iowa, Illinois and Pennsylvania; east to Georgia and Florida." (Bendire).

339. Red-shouldered Hawk (*Buteo lineatus*). L. ♂, 18.3; ♀, 20.3. *Four* outer primaries notched. *Ads.* Lesser wing-coverts bright reddish brown. *Yng.* Below whitish *streaked* with brownish; lesser wing-coverts less reddish; primaries with *rusty buff*. *Notes.* A loud screaming *kee-yer, kee-yer*.

Range.—Eastern United States to Oklahoma, eastern Kansas, eastern Nebraska and Minnesota, north to Maine, south to northern Florida; generally resident.

339a. Florida Red-shouldered Hawk (*B. l. alleni*). Smaller than No. 339. (W. ♂, 11.) *Ad.* Much grayer above, no rusty on head, much paler below.

Range.—Florida north along coast to South Carolina; west along coast to eastern Texas.

339b. Red-bellied Hawk (*B. l. elegans*). Similar to No. 339, but rusty of breast usually unbroken. Young with lower parts deep brownish or dusky prevailing; less buff on primaries. (Ridgw.)

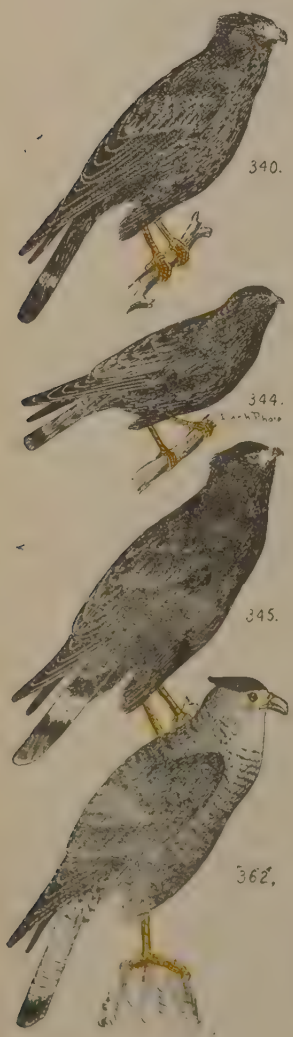
Range.—Pacific coast from Lower California north to British Columbia; east rarely to Colorado and western Texas.

342. Swainson Hawk (*Buteo swainsoni*). L. ♂, 20. *Three* outer primaries notched. *Ad.* ♂. Breast patch rusty brown. *Ad.* ♀. Breast-patch grayish brown. Dark phase. Brownish black more or less varied with rusty; tail obscurely barred. *Yng.* Below *rich* rusty buff with elongate black spots. *Notes. Pi-tick, pi-tick,* frequently repeated. (Bendire.)

Range.—"Western North America from Wisconsin, Illinois, Arkansas and Texas to the Pacific coast; north to Arctic regions and south to Argentine Republic, casual east to Maine and Massachusetts. Breeds nearly throughout its North American range." (A. O. U.)

343. Broad-winged Hawk (*Buteo platypterus*). L. ♂, 15.8; ♀, 16.7. *Three* outer primaries notched. *Ads.* Tail with two whitish bands and a brownish tip; below *barred* with rusty brown. *Yng.* *No* buff in primaries; tail brownish with several black bars; below whitish, streaked with blackish. *Notes.* A high, sharp, keen, penetrating whistle.

Range.—Eastern North America, breeds west to Plains, north to New Brunswick and Saskatchewan; winters from southern New Jersey south to northern South America.



340. Zone-tailed Hawk (*Buteo abbreviatus*). L. ♂, 19; ♀, 21. *Ads.* Tail with little if any white tip; *inner* webs of all but middle feathers with black and white bars. *Yng.* Browner; tail grayish brown; white on inner webs, with numerous blackish bars. *Notes.* Not unlike those of *Buteo borealis.* (Belding.)

Range.—Tropical America north to southern Texas, southern Arizona and southern California.

344. Short-tailed Hawk (*Buteo brachyurus*). L. 17; T. 7. *Ads.* Above slaty gray, tail barred with black and tipped with white; sides of breast rusty; rest of underparts *white.* Dark phase. Blackish, forehead whitish; tail lighter than back, barred with black. *Yng.* Above blackish brown, below cream buff, *without* black markings. *Notes.* Somewhat resembling the scream of the Red-shouldered Hawk, but more prolonged. (Pennock.)

Range.—Tropical America, north to eastern Mexico; rare in Florida.

345. Mexican Black Hawk (*Urubitinga anthracina*). L. ♂, 19; ♀, 21. *Ads.* Tail with a white tip and broad white band across *all* the feathers. *Yng.* Above brownish black, buff and rusty; below buffy striped with blackish; tail with several black and whitish bars. *Notes.* Piping cries like the spring whistle of *Numenius longirostris.* (Bendire.)

Range.—"Tropical America in general, north to central Arizona, and the Lower Rio Grande Valley in Texas." (Bendire).

362. Audubon Caracara (*Polyborus cheriway*). L. 22. Tail white with a black end and numerous black bars. *Ads.* Breast and hindneck barred; belly black. *Yng.* Crown, back, and belly dark brown; hindneck, breast and belly *streaked* with buffy. *Notes.* Generally silent, but sometimes utters a prolonged cackling note. (B. F. Goss.)

Range.—Northern South America, north to southern Texas, southern Arizona and Lower California; interior of southern Florida; resident.

363. Guadalupe Caracara (*Polyborus lutosus*). Resembles No. 362, but has rump and upper tail-coverts dull brownish buff broadly barred with dull brown; tail brownish buff with broad bars of grayish brown bordered by narrower zigzag bars or lines of dusky; terminal band less than 2.00 wide. (Ridgway.)

Range.—Guadalupe Island, west of Lower California.

341. Sennett White-tailed Hawk (*Buteo albicaudatus sennetti*). L. ♂, 21; ♀, 23. Three outer primaries cut. *Ads.* Grayish slate above. *Yng.* Above brownish black; breast usually white, throat blackish, belly heavily marked with rusty and blackish; sometimes wholly black below; tail generally *silvery gray*, white on inner webs with numerous indistinct blackish bars. *Notes.* A cry much like the bleating of a goat (Merrill.)

Range.—From southern Texas and Arizona south to Mexico." (Bailey.)

347a. American Rough-legged Hawk (*Archibuteo lagopus sancti-johannis*). B. .7 deep, *smaller* than in No. 348. L. ♂, 21; ♀, 23. Legs feathered to the toes. *Ads.* Basal half of tail white, end half barred with black; belly with more or less black. *Yng.* No black bars on end half of tail; buffier below, more black on belly. Black phase. Black more or less varied with brown and rusty as it approaches light plumage of ad. or yng; but to be known by feathered legs.

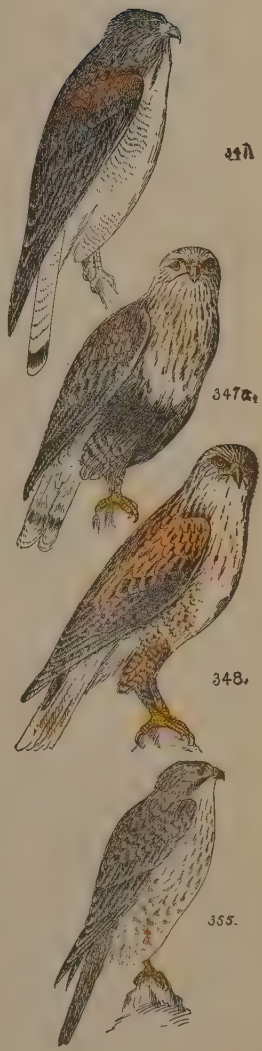
Range.—North America; breeds north of United States; winters south to Virginia, Missouri and central California.

348. Ferruginous Rough-Leg (*Archibuteo ferrugineus*). B. 1. deep, larger than in No. 347a; L. ♂, 22; ♀, 24. Legs feathered to toes. *Ads.* Above rich rusty streaked with black; legs rusty barred with black; tail grayish sometimes washed with rusty. *Yng.* Above blackish brown margined with rusty; below white; breast with a few streaks; legs *spotted*; tail with inner webs and base white; outer webs grayish. Dark phase. Sooty brown more or less varied with rusty; *tail as in ad.*

Range.—Western North America from the Plains (east North Dakota to Texas), west to the Pacific and from the Saskatchewan region south into Mexico; casually east to Illinois. Breeds from Utah, Colorado and Kansas north to the Saskatchewan Plains." (A. O. U.)

355. Prairie Falcon (*Falco mexicanus*). L. ♂, 17; ♀, 20. A blackish patch on the sides. *Ad.* ♂. Above including middle tail feathers, grayish brown; back with more or less concealed buffy bars. *Ad.* ♀. No buffy bars on back. *Yng.* Above margined with rusty and whitish; head much as in ad. *Notes.* *Kēē, kēe, kee* and a sort of cackle. (Bendire.)

Range.—"United States from the eastern border of the Plains to the Pacific and from the Dakotas south into Mexico; casual east to Illinois. Breeds throughout its United States range." (A. O. U.)



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354b.

349. Golden Eagle (*Aquila chrysaëtos*). L. ♂, 30-35; ♀, 35-40; Ex. ♂, 78 84; ♀, 84-90. (Ridgw.) Legs feathered to toes. *Ads.* Back of head and nape paler than body; basal two-thirds of tail white. *Yng.* Base of tail with broken grayish bars. *Notes.* A shrill, *kee-kee-kee*, and, when alarmed, *kiah-kiah* repeated a number of times. (Bendire.)

Range.—Northern parts of northern hemisphere; in America south into Mexico; rare east of Mississippi, more common in Rocky Mountains and mountains of Pacific coast.

352. Bald Eagle (*Haliæetus leucocephalus*). L. ♂, 33; ♀, 35; Ex. ♂, 84; ♀, 89. Legs *not* feathered to toes. *Ads.* Head, neck and tail white. *Yng.* Head and body blackish, more or less varied with white; tail blackish mottled with white. *Notes.* Of the male, a loud, clear *cac cac-cac*; of the female harsh and broken. (Ralph.)

Range.—North America breeding locally throughout its range, more frequently near the Atlantic coast; resident in United States.

352a. Alaska Bald Eagle (*H. l. alascanus*). Similar to No. 352, but larger. W. ♂, 23.8; ♀, 24.6; T. ♂, 11.5; ♀, 12; Tar. ♂, 4.1; ♀, 3.7. (Townsend.)

Range.—Alaska.

353. White Gyrfalcon (*Falco islandus*). L. ♂, 22; ♀, 24. Tarsus feathered in front nearly to toes; only outer primary notched. Under tail coverts *pure* white. *Ads.* Below white with few or no black markings. *Yng.* Dark areas above larger, below with elongate blackish spots.

Range.—Arctic regions, in America south in winter casually to Maine.

354. Gray Gyrfalcon (*Falco rusticolus*). L. ♂, 22; ♀, 24. Tarsus feathered in front nearly to toes; only outer primary notched. Under tail coverts *with* dusky margins. *Ads.* Crown usually more white than dusky; above *barred* with blackish and grayish; below white, breast streaked; sides and legs barred with dusky. *Yng.* Above dark brown brown with broken buffy bars and margins; tail with white and brown bars of nearly equal width; below white everywhere streaked with blackish.

Range.—Arctic regions; south in winter to the northern border of the United States; casually as far as Kansas and Maine.

354a. Gyrfalcon (*F. r. gyrfalco*). Similar to No. 354, but head usually with more dusky than white; back in ad. indistinctly barred with grayish. *Yng.* With dark stripes of lower parts usually about equal in width to white interspaces.

Range.—"Northern Europe and Arctic America, from northern Labrador and coasts of Hudson Bay to Alaska" (Ridgw.); south in winter casually, to northern border of United States as far as Long Island.

354b. Black Gyrfalcon (*F. r. obsoletus*). Similar to No. 354, but much darker; above plain dusky with few or no buffy markings; below dusky margined with buffy, the former prevailing. *Notes.* A chattering *ke-a, ke-a, ke-a*, blending into a rattling scream. (Turner.)

Range.—Labrador; south in winter to northern New England; casually to Long Island.

356. Duck Hawk (*Falco peregrinus anatum*). L. ♂, 16; ♀, 19. Sides of throat black. *Ads.* Above bluish slate; below buffy. *Yng.* Above blackish margined with rusty; tail with broken rusty bars and whitish tip; below *deep* rusty buff streaked with blackish; under surface of wing uniformly barred. *Notes.* Loud screams and noisy cacklings. (Bendire.)

Range.—Western Hemisphere; breeds locally from Southern States to Arctic regions; winters from Northern States southward; more common west of Rocky Mountains.

356a. Peale Falcon (*F. p. pealei*). *Ads.* Crown uniform with back; chest heavily spotted with blackish; bars of remaining underparts very broad. (Ridgw.)

Range.—"Pacific coast region of North America from Oregon to the Aleutian and Commander Islands, breeding throughout its range." (A. O. U.)

357. Pigeon Hawk (*Falco columbarius*). L. ♂, 10.5; ♀, 13. Two outer primaries notched. *Ad.* ♂. Above slaty blue; middle tail feather with not more than *four* black bands. *Ad.* ♀ and *Yng.* Above dark blackish brown; bars in middle tail feather five or less; below more heavily barred than in ♂.

Range.—North America; breeds chiefly north of United States from Rocky Mountains and westward; breeds from Colorado and California north to Alaska; winters from Gulf States, Colorado and California, south to northern South America.

357a. Black Merlin (*F. c. suckleyi*). Similar to No. 357, but much darker above and more heavily marked below; bars on tail and under side of wing nearly obsolete.

Range.—Pacific coast from northern California to Sitka; east to eastern Oregon and Washington.

358. Richardson Merlin (*Falco richardsonii*). Resembles No. 357, but is paler and has the central tail feather crossed by six light bars, counting the terminal one.

Range.—Interior of North America from eastern border of Great Plains west; rare west of Rockies; north to, at least, latitude 55°; south to Mexico.

359. Aplomado Falcon (*Falco fusco-cœrulescens*). L. ♂, 16; ♀, 17.5. Middle of belly black. *Ads.* Above slaty gray; breast buff, lower belly rusty. *Yng.* Similar but grayish brown above, belly paler.

Range.—South and Central America north to southern border of the United States.

360. Sparrow Hawk (*Falco sparverius*). L. 10; ♀, 11. *Ad.* ♂. Tail with one black bar; below *spotted*. *Ad.* ♀. Whole back barred; tail with numerous black bars; below *streaked*. *Notes.* A rapidly repeated *killy-killy-killy*, usually uttered while on the wing.

Range.—Eastern North America west to Rocky Mountains; breeds from Gulf States to Hudson Bay; winters from southern Illinois and New Jersey southward.

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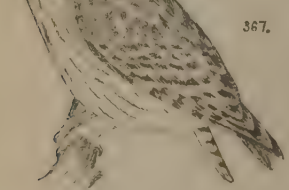

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360a. Desert Sparrow Hawk (*F. s. phalœna*). Similar to No. 360, but slightly larger and appreciably paler; ♀ with black bars above narrower; streakings of underparts finer and more rusty. ♂, L. 10.6; W. 7.5; T. 5.3; ♀, L. 10.8; W. 7.7; T. 5.3. (Mearns.)

Range.—"Western United States, north to eastern British Columbia and western Montana south, to Mazatlan in northwestern Mexico." (A. O. U.)

360b. St. Lucas Sparrow Hawk (*F. s. peninsularis*). Similar to No. 360a, but paler; smaller than No. 360. ♂, W. 6.4; T. 4.5; ♀, W. 7; T. 4.7. (Mearns.)

Range—Lower California (Cape Region only?)

365. Barn Owl; Monkey-faced Owl (*Strix pratincola*). L. 18. No ear-tufts; eyes black. *Ads.* Above gray and yellowish buff; below white more or less washed with buff and spotted with black. *Yng.* More buffy below. *Notes.* A sudden, harsh scream and a screaming *cr-r-r-r-e-e*, repeated several times generally when flying.

Range.—United States north to Long Island, (rarely Massachusetts), southern Ontario, Minnesota and Oregon; migrates slightly south and winters south to Mexico.

366. American Long-eared Owl (*Asio wilsonianus*). L. 14.8. Ear-tufts long; eyes yellow. *Ads.* Above varied with *gray;* belly *barred. Notes.* Usually silent except during the breeding season when they utter a soft toned, slow *wu-hunk, wu-hunk* and a low, twittering, whistling *dicky, dicky, dicky.* (Bendire.)

Range.—North America; breeds from Nova Scotia, Manitoba, and British Columbia south into Mexico.

367. Short-eared Owl (*Asio accipitrinus*). L. 15.5. Ear tufts short; eyes yellow. *Ads.* No gray above; belly *streaked. Notes.* A shrill barking call like the *ki-yi* of a small dog. (Lawrence.)

Range.—"Nearly cosmopolitan;" in America breeds locally from Virginia, northern Mississippi Valley, and Dakotas northward; winters from northern United States southward.

378. Burrowing Owl (*Speotyto cunicularia hypogæa*). L. 10. Tarsi bare behind. *Ads.* Spotted above with buffy; belly barred; chin and breast-patch white. *Yng.* Less distinctly spotted above; belly without bars. *Notes.* A mellow, sonorous *coo-o-o-o*; a chattering note uttered when flying, and a short, shrill alarm-note, *tzip-tzip.* (Bendire.)

Range. Western North America from humid coast region east to prairies of Mississippi Valley (western Nebraska, central Kansas, western Minnesota); north to about line of Canadian Pacific R. R.; south to Central America.

378a. Florida Burrowing Owl (*S. c. floridana*). Similar to No. 378, but slightly smaller and whiter throughout; spots above white with little if any buff; tarsi nearly bare.

Range.—Interior of southern Florida.

368. Barred Owl (*Syrnium varium*). L. 20. No ear-tufts; eyes black. *Ads.* Head, back and breast *barred*; *toes feathered nearly if not quite to the nails. Notes.* A loud, sonorous *whoo-whoo-whoo-too-whoo*, *to-whoo-ah*; a long-drawn, *whoo-ah*; rarely a wild scream; and when two individuals meet, a remarkable medley of hoots and *ha-has.*

Range.—Eastern North America except Gulf Coast; north to Nova Scotia and Manitoba; west to Colorado; resident, except at northern limit of range.

368a. Florida Barred Owl (*S. v. alleni*). Similar to No. 368, but smaller, darker; black bars especially on breast, wider; *toes nearly if not quite bare.*

Range.—Florida; north along coast to South Carolina; west along coast to Texas.

368b. Texas Barred Owl (*S. v. helveolum*). Similar to No. 368 in color, but with the toes bare as in No. 368a.

Range.—Southern Texas.

369. Spotted Owl (*Syrnium occidentale*). Resembles No. 368, but has the head and neck *spotted* with white; primaries with broad, whitish tips. *Notes.* Probably similar to those of No. 368. (Bendire.)

Range.—Western United States from southern Colorado and New Mexico, west to California, south to Lower California and Guanajuato, Mexico.

369a. Northern Spotted Owl (*S. o. caurinum*). Similar to No. 369, but darker; white markings smaller; white spots on head and neck reduced to minimum; white tips to primaries nearly obsolete. (Merriam.)

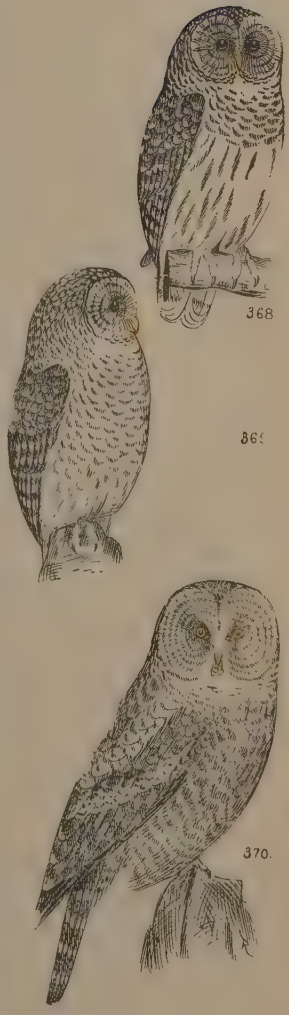
Range.—Western Washington and British Columbia.

370. Great Gray Owl (*Scotiaptex nebulosa*). L. 27. No ear-tufts; eyes yellow. *Ads.* Above black finely and *irregularly* marked with white; breast *streaked*; feet feathered to toe-nails. *Notes.* Said to be a tremulous, vibrating sound. (Fisher.)

Range.—North America; breeds north of Lat. 55°; winters south to northern border of United States casually as far as New Jersey, Illinois, Minnesota, Idaho, and northern California.

371. Richardson Owl (*Nyctala tengmalmi richardsoni*). L. 10. *Ads.* Above *grayish* brown with numerous white *spots*, particularly on head; feet feathered to toes and usually with indistinct, dusky bars. *Notes.* A musical, soft whistle. (Wheelright.) A peculiar grating cry. (Nelson.) (See next page.)

Range.—Northern North America; breeds from Gulf of St. Lawrence and Manitoba northward; winters south to northern border of United States, casually to Massachusetts, Iowa, and Colorado; no Pacific coast record (?).



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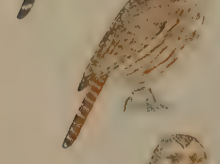

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372. Saw-whet Owl; Acadian Owl (*Nyctala acadica*). L. 8. *Ads.* Above *cinnamon* brown; forehead with many, hindhead with few *streaks*; back with white spots; feet and legs less heavily feathered than in No. 371 and *without* dusky bars. *Yng.* Breast and back cinnamon brown with few white markings; belly *rusty buff, unstreaked*. *Notes.* A frequently repeated whistle; sometimes high, sometimes low; generally begins slow and ends rapidly; resembles noise of saw-filing. (Ralph.)

Range.—North America; breeds from mountains of Pennsylvania, Massachusetts (rarely), northern New York, northern Illinois; and, in Rocky Mountains, from Mexico northward; winters south to Virginia, Kansas and central California.

372a. Northwest Saw-whet Owl (*N. a. scotæa*). Similar to No. 372, but darker both above and below, dark markings everywhere heavier; flanks, legs and feet more rufescent. (Osgood.)

Range.—Queen Charlotte Islands, British Columbia.

379. Pygmy Owl (*Glaucidium gnoma*). L. 7. Top of head *spotted*. *Ads.* Above grayish brown; spots whitish. *Yng.* No spots on head. *Notes.* A soft cooing *coohuh, coohuh,* repeated a number of times. (Bendire.)

Range. "Timbered regions of western North America, from southern Rocky Mountains in Colorado, New Mexico, and Arizona," west to California, Oregon, and Washington, except coast belt, south into Mexico.

379a. California Pygmy Owl (*G. g. californicum*). Similar to No. 379, but darker; spots above buff or rusty.

Range.—Humid coast region from Monterey, California, north to British Columbia.

379.1. Hoskin Pygmy Owl (*Glaucidium hoskinsi*). Similar to No. 379a, but smaller and grayer, the forehead and facial disc with more white, the upperparts less distinctly spotted. (Brewst.)

Range.—Southern Lower California.

380. Ferruginous Pygmy Owl (*Glaucidium phalænoides*). L. 7. Top of head *streaked*. *Ads.* Above varying from grayish brown marked with whitish to plain reddish brown without marks; below white streaked with grayish brown or reddish brown. *Yng.* No streaks on head. *Notes.* A softly whistled *coo* repeated many times at intervals of about one second.

Range.—Tropical America; from Brazil north to Mexican border of United States.

381. Elf Owl (*Micropallas whitneyi*). L. 6. Smallest of our Owls. *Ads* Above grayish brown, head spotted; back barred with rusty; below mixed rusty, white and grayish. *Notes.* A tremulous *cha-cha, cha-cha,* in different keys, sometimes low, sometimes distinct. (Bendire.)

Range.—Tableland of Mexico from Puebla north to Mexican border of United States; Lower California, and (rarely) California.

373. Screech Owl (*Megascops asio*). L. 9.4; W. 8.4; T. 3. Two color phases; with ear-tufts; eyes yellow. *Ad.* Gray phase. Above buffy gray irregularly marked with black; below gray, white, rusty and black. *Ad.* Red phase. Above bright rusty brown with a few black streaks; below white streaked with black and barred with rusty brown. *Yng.* Above gray or rusty *barred* with black and white; below white thickly barred with blackish. *Notes.* A frequently repeated tremulous, wailing whistle; often followed by a slower refrain-like call; a castanet-like snapping of the mandibles.

Range.—Eastern North America from Florida north to New Brunswick, Ontario and Minnesota, west to the Great Plains; resident.

373a. Florida Screech Owl (*M. a. floridanus*). Smaller than No. 373, W. 6.0; T. 2.8. Two color phases. Similar to those of No. 373, but averaging darker and more heavily marked below; especially in red phase.

Range.—Florida, north along coast to South Carolina; west along coast to Louisiana.

373b. Texas Screech Owl (*M. a. mccalli*). Similar to No. 373, but smaller, W. 6.1; underparts, especially sides of belly, with more black bars; toes bare. I have seen only a gray phase.

Range.—"From western and southern Texas across east border of tablelands of Mexico." (Bailey.)

373c. California Screech Owl (*M. a. bendirei*). W. 6.6. A gray color phase only. Resembling No. 373, but somewhat darker above; less buff about the nape; black streakings more regularly distributed; underparts much as in No. 373b.

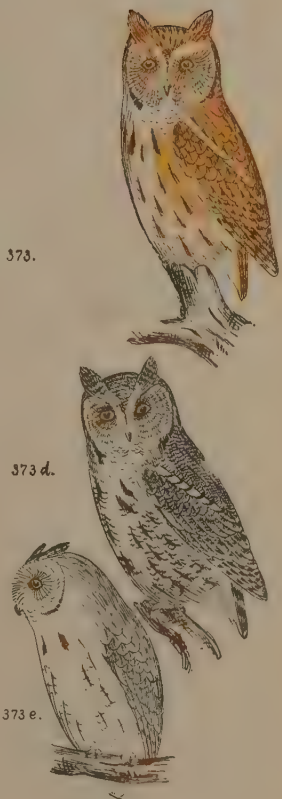
Range.—California and southern Oregon.

373d. Kennicott Screech Owl (*M. a. kennicottii*). L. 10; W. 7. 25. *Ads.* Sooty brown prevailing above; blackish markings below nearly if not fully as wide as white ones; darkest of our Screech Owls.

Range. Pacific coast from Oregon to Sitka.

373e. Rocky Mountain Screech Owl (*M. a. maxwelliæ*). W. 7. Similar to No. 373f above but paler; pale grayish buff predominating; black markings throughout much narrower and less numerous than in No. 373g; palest of our Screech Owls.

Range.—"Foothills and adjacent plains of the east Rocky Mountains from Colorado north to Montana" (Bendire).



373f. Mexican Screech Owl (*M. a. cineraceus*). A gray color phase only. Similar to No. 373b, but much grayer above; buff markings of No. 373b almost wholly absent; below black bars more numerous and narrower than in No. 373b.

Range.—"New Mexico, Arizona, Lower California, and western Mexico." (A. O. U.)

373g. Aiken Screech Owl (*M. a. aikeni*). A gray color phase only. W. 6.5. Similar to 373f, but still grayer; almost no buff above; black markings wider on head, back, and underparts.

Range.—"Plains, El Paso County, Colorado, south probably to central New Mexico and northeastern Arizona." (A. O. U.)

373h. MacFarlane Screech Owl (*M. a. macfarlanei*). A gray color phase only. *Ads.* Of the size of *kennicottii*, but with color and markings of *bendirei*. W. 7.2; T. 3.8. (Brewst.)

Range.—"Eastern Washington and Oregon to western Montana and probably intermediate regions, and north to the interior of British Columbia." (Bailey.)

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373.1. Spotted Screech Owl (*Megascops trichopsis*). L. 7.7. *Ads.* Above mixed black, grayish brown and buff; black prevailing on head; feathers of foreback with buffy white *spots* on either side near the end; below much as in No. 373f.

Range.—Southern Arizona and southward into northern Mexico.

373.2. Xantus Screech Owl (*Megascops xantusi*). W. 5.3. *Ad. ♂.* Above drab, back tinged with pinkish rusty and faintly vermiculated with reddish brown; breast paler ashy faintly suffused with pinkish or rusty; belly whitish; underparts finely barred with reddish brown and streaked with clove-brown. (Brewst.)

Range.—Cape Region of Lower California.

374. Flammulated Screech Owl (*Megascops flammeola*). L. 7. *Ads.* Ear-tufts small; eye surrounded by rusty, then by gray; crown, nape and tips of scapulars largely rusty; neck band rusty.

Range.—Mountains of Guatemala north to Colorado (11 specimens, 7 from Boulder County, Cook), west rarely to California (2 specimens).

374a. Dwarf Screech Owl (*M. f. idahoensis*). Similar to No. 374, but slightly smaller and paler, especially on underparts where ground color is white and black markings are restricted.

Range.—Idaho, eastern Oregon and California (San Bernardino Mountains, 3 specimens, Grinnell).

375. Great Horned Owl (*Bubo virginianus*). ♂, L. 22; W. 15. *Ads.* Ears conspicuous; the feathers nearly throughout the body rusty basally; facial disc rich rusty. *Notes.* A loud, low, deep-toned *whoo, hoo-hoo-hoo, whooo-whooo*, variable, but usually on the same note; rarely a hair-raising scream.

Range.—Eastern North America; north to Labrador, south to Central America; resident.

375a. Western Horned Owl (*B. v. pallescens*). Smaller and paler than No. 375, W. 13.7; facial disc washed with rusty.

Range.—Western United States, except Pacific coast region, east to Great Plains; casually Wisconsin and Illinois north to Manitoba and British Columbia; south to Mexico.

375b. Arctic Horned Owl (*B. v. arcticus*). Black and white prevailing above; bases of feathers light yellowish buff; below black and white with little or no buffy; facial disc gray.

Range.—Interior of Arctic America, from Rocky Mountains east to Hudson Bay; breeds north of Lat. 51°; in winter straggles southward to adjacent border of United States; rarely to Wyoming and Nebraska.

375c. Dusky Horned Owl (*B. v. saturatus*). Size of No. 375b, but much darker; black bars below equalling white ones in width; darkest bird of group.

Range.—"Pacific coast region from Monterey Bay, California, north to Alaska; east to Hudson Bay and Labrador." (A. O. U.)

375d. Pacific Horned Owl (*B. v. pacificus*). Somewhat smaller than No. 375b, W. 13.5; more like No. 375 in color but less rusty.

Range.—California, except humid coast region; east to Arizona.

375e. Dwarf Horned Owl (*B. v. elachistus*). Similar to No. 375c, but very much smaller. W. ♂, 12.8; ♀, 13.4. (Brewster.)

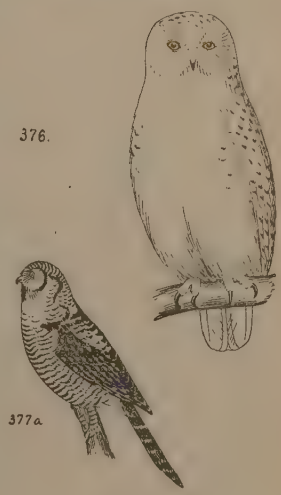
Range.—Lower California.

376. Snowy Owl (*Nyctea nyctea*). L. 25. *Ad.* ♂. White more or less barred with blackish. *Ad.* ♀. Similar, but more heavily barred.

Range.—Northern parts of northern hemisphere; in America breeds from Lat. 50° northward; winters south to northern United States; straggles as far as Texas and California.

377a. American Hawk Owl (*Surnia ulula caparoch*). L. 15; T. 7.2 long and *rounded*. *Ads.* Above brownish black, crown thickly spotted, scapulars conspicuously margined with white; chin blackish; belly barred. *Notes.* A shrill cry generally uttered while flying. (Fisher.)

Range.—Northern North America; breeds from Newfoundland and northern Montana northward; winters south to northern United States, rarely to New Jersey, Pennsylvania, and Illinois; rare on Pacific coast.



Order XIII. PAROQUETS AND PARROTS.

PSITTACI.

Family 1. PARROTS and PAROQUETS. Psittacidæ. 2 species.

Parrots are found throughout the warmer parts of the earth. About one hundred and fifty of the some five hundred known species inhabit America. The Carolina Paroquet, practically the only member of this family found in the United States, since the Thick-billed Parrot barely reaches our border in Arizona, was once an abundant bird in the Southern States, but it is now restricted to a few localities in Florida and possibly Indian Territory,

Order XIV. CUCKOOS, TROGONS, KINGFISHERS, Etc.

COCCYGES.

Family 1. CUCKOOS, ANIS, etc. Cuculidæ. 5 species 2 subspecies.
Family 2. TROGONS. Trogonidæ. 1 species.
Family 3. KINGFISHERS. Alcedinidæ. 2 species.

The Cuckoos are a group of world-wide distribution, but are more numerous in the eastern than in the western hemisphere where only thirty-five of the some one hundred and seventy-five species are found. The habit of the European Cuckoo in placing its eggs in the nest of other birds is well known. The American species, however, build nests of their own though it is true they are far from well made structures. With the Anis one nest serves for several females who may deposit as many as thirty eggs, incubation and the care of the young being subsequently shared by the members of this singular family.

Trogons are found in the tropics of both the Old and New Worlds. They are quiet, sedentary birds inhabiting forests and feeding largely on fruit. So far as is known they nest in hollow trees.

Only eight of the one hundred and eighty or more known Kingfishers are found in America, the remaining species being confined to the Old World where they are most numerous in the Malay Archipelago.

382.1. Thick-billed Parrot (*Rhynchopsitta pachyrhyncha*). L. 16.5. *Ads.* Forehead, loral region, stripe over eye, bend of wing and thighs red; greater under wing-coverts yellow; rest of plumage green.

Range.—Central Mexico north rarely to southern Arizona.

382. Carolina Paroquet (*Conurus carolinensis*). L. 12.5 *Ads.* Forehead and cheeks deep orange, rest of head yellow. *Yng.* Forehead and loral region orange; rest of head green like back; no yellow on bend of wing. *Notes.* A sharp, rolling *kr-r-r-r-r-r.*

Range.—Formerly eastern United States, north to Maryland, Great Lakes, and Iowa; west to Colorado, Oklahoma and eastern Texas; now restricted to southern Florida and parts of Indian Territory.

383. Ani (*Crotophaga ani*). Resembling No. 384, but upper mandible without grooves. *Notes.* A complaining, whistled *oo-eeek, oo-eeek.*

Range.—Eastern South America; north to West Indies and Bahamas; rarely to southern Florida; accidental in Louisiana and Pennsylvania.

384. Groove-billed Ani (*Crotophaga sulcirostris*). L. 12.5; B. .7 *high*; the upper mandible with ridges and furrows. *Ads.* Blue-black, many of the feathers with iridescent margins.

Range.—Northwestern South America, north through Mexico to Lower California and southeastern Texas; casually Arizona, Louisiana, and Florida.

385. Road-runner (*Geococcyx californianus*). L. 23. Toes two in front, two behind. *Ads.* Above glossy olive-brown with whitish and rusty margins; tail much rounded, outer tail-feathers tipped with white. *Notes.* A soft cooing and a low *chittering* note produced by striking the mandibles together. Bendire mentions a note like that of a hen calling her brood.

Range.—Central Mexico north (rarely) to southwestern Kansas, southern Colorado, and Sacramento Valley, California, rarely to southern Oregon.

386. Mangrove Cuckoo (*Coccyzus minor*). L. 13. *Ads.* Underparts *uniformly* rich buff; above grayish brown, crown grayer; ear-coverts black; tail black, outer feathers broadly tipped with white.

Range.—Northern South America, north through Central America, Mexico and Greater Antilles (except Porto Rico?) to Florida and Louisiana; migrating south in fall.

386a. Maynard Cuckoo (*C. m. maynardi*). Similar to No. 386, but underparts paler, the throat and forebreast more or less ashy white.

Range.—Bahamas and (eastern?) Florida Keys.

387. Yellow-billed Cuckoo (*Coccyzus americanus*). L. 12.2. *Ads.* Below white; lower mandible largely yellow; tail black, outer feathers widely tipped with white. *Notes.* *Tut-tut, tut-tut, tut-tut, tut-tut, cl-uck, cl-uck, cl-uck, cl-uck, cl-uck, cow, cow, cow, cow, cow, cow*, usually given in part.

Range.—Eastern North America; breeds from Florida to New Brunswick and Minnesota; winters in Central and South America.

387a. California Cuckoo (*C. a. occidentalis*). Similar to No. 387, but somewhat grayer and larger; the bill slightly longer, 1.05.

Range.—Western North America; north to southern British Columbia; east to western Texas; winters south into Mexico.

388. Black-billed Cuckoo (*Coccyzus erythrophthalmus*). L. 11.8. *Ads.* White below; bill *black*; tail, seen from below, grayish *narrowly* tipped with white; above, especially on crown, browner than No. 387. *Notes.* Similar to those of No. 387, but softer, the *cow* notes connected.

Range.—Eastern North America; west to Rocky Mountains; breeds north to Labrador and Manitoba; winters south of United States to Brazil.

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389. Coppery-tailed Trogon (*Trogon ambiguus*). L. 12. *Ad.* ♂. Wing-coverts finely vermiculated; tail coppery tipped with black; outer web and end of outer feathers white, mottled with black. *Ad.* ♀. Ear-coverts gray; back grayish brown; middle tail-feathers rusty brown tipped with black; breast brownish; upper belly grayish; ventral region pink. *Notes.* Resemble those of a hen Turkey. (Fisher.)

Range.—Southern Mexico north to Lower Rio Grande and Arizona.

390. Belted Kingfisher (*Ceryle alcyon*). L. 13. *Ad.* ♂. Breast-band and sides like back. *Ad.* ♀. Breast-band and sides rusty. *Notes.* A loud, harsh rattle.

Range.—North America; breeds from Florida, Texas, and California north to Arctic regions; winters from Virginia, Kansas, and southern California south to northern South America.

391. Texas Kingfisher (*Ceryle americana septentrionalis*). L. 8.7. *Ad.* ♂. Breast rusty brown; back greenish; a white collar. *Ad.* ♀. Throat and breast white, sometimes tinged with buffy; a breast and belly band of greenish spots. *Notes.* When flying, a sharp, rattling twitter; when perching, a rapid, excited ticking.

Range.—Tropical America, from Panama north to southern Texas.

ORDER XV. WOODPECKERS.

PICI.

Family 1. WOODPECKERS. PICIDÆ. 24 species, 22 subspecies.

The some three hundred and fifty known species of Woodpeckers are distributed throughout the wooded parts of the world, except in Australia and Madagascar, nearly one half of this number being found in the New World. Feeding largely upon the eggs and larvæ of insects, which they can obtain at all seasons, most of the North American species are not highly migratory but are represented in the more northern parts of their range at all times of the year.

Woodpeckers nest in holes in trees generally excavated by themselves. The eggs, four to eight or nine in number, like those of most birds that lay in covered situations, are pure white. The young are born naked and are reared in the nest.

In few birds is the close relation between structure and habit more strikingly illustrated than in the Woodpeckers. Their lengthened toes placed two before and two behind (except in one genus) and armed with strong nails enable them readily to grasp the bark of trees up which they climb. Their stiffened, pointed tail-feathers are also of assistance to them in retaining their position on tree trunks, serving as a prop on which they may rest while chiseling out their homes or laying bare the tunnels of the grubs of wood boring beetles. For this purpose they use their bill, a marvellously effective tool with which some of the large Woodpeckers perform astonishing feats. I have seen an opening made by a Pileated Woodpecker in a white pine tree, twelve inches long, four inches wide, and eight inches deep, though perfectly sound wood to reach the larvæ at work in the heart of the tree. The bill is also used as a musical instrument, the 'song' of Woodpeckers being a rolling tattoo produced by rapid tappings on some resonant limb.

As might be supposed the Woodpeckers are great of economic value. Professor Beal states that at least two-thirds to three-fourths of the food of our common Downy and Hairy Woodpeckers consists chiefly of noxious insects.

392. Ivory-billed Woodpecker (*Campephilus principalis*). L. 20; B. 2.7, ivory white. *Ad.* ♂. Crest scarlet. *Ad.* ♀. Similar to the ♂, but crest black. *Notes.* A sharp, penny trumpet-like *yap-yap*.

Range.—Florida west to eastern Texas; north to southern Missouri and Oklahoma; formerly north to North Carolina, Illinois, and Indiana.

400. Arctic Three-toed Woodpecker (*Picoides arcticus*). L. 9.5. Back shining black *without* white; toes two in front, one behind *Ad.* ♂. Crown yellow. *Ad.* ♀. Crown black. *Notes.* A sharp, shrill, *chirk, chirk.* (Hardy.)

Range.—"Northern North America, from the Arctic regions south to northern United States. (New England, New York, Michigan, Minnesota and Idaho), and in the Sierra Nevadas to Lake Tahoe." (A. O. U.)

401. American Three-toed Woodpecker (*Picoides americanus*). L. 8.7. Back *with* white; toes two in front, one behind. *Ad.* ♂. Crown yellow; white bars on back broken, detached *not* confluent. *Notes.* A prolonged squealing, rarely uttered. (Turner.)

Range.—Northern North America; west to Rocky Mountains; breeds from Maine, mountains of New Hampshire, northern New York, and northern Minnesota northward; south in winter, rarely to Massachusetts, central New York, and northern Illinois.

401a. Alaskan Three-toed Woodpecker (*P. a. fasciatus*). Similar to No. 401, but white bars on back confluent forming a more or less continuous white patch.

Range.—"Alaska Territory; casually? south through western British Columbia to northwestern Washington (vicinity of Mt. Baker); east irregularly to Great Bear Lake and the Mackenzie River Valley, Northwest Territory." (Bendire.)

401b. Alpine Three-toed Woodpecker (*P. a. dorsalis*). Similar to No. 401a, but larger. W. 5; bill narrower. *Notes.* A harsh, nasal cry; a sudden, sharp *whip, whip, whip,* (Mearns.)

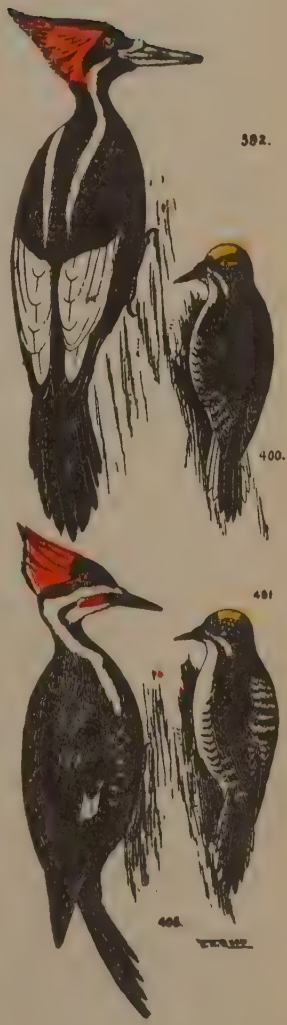
Range.—"Rocky Mountain region from British Columbia and Idaho south into New Mexico." (A. O. U.)

405. Pileated Woodpecker (*Ceophlœus pileatus*). L. 17. W. 8.9. *Ad.* ♂. Crown, crest, and streaks on sides of throat red; sides of neck and patch on wing white. *Ad.* ♀. Forehead brownish, no red on sides of throat. *Notes.* A sonorous *cow-cow-cow*, repeated slowly many times and a *wichew* call when two birds meet; both suggesting calls of the Flicker.

Range.—Southern United States north to South Carolina.

405a. Northern Pileated Woodpecker (*C. p. abieticola*). Similar to No. 405, but slightly larger, W. 9; T. 6.2.

Range.—Locally distributed throughout more heavily wooded regions of North America, except in southern United States, north to Lat. 63°.



393. Hairy Woodpecker (*Dryobates villosus*). L. 9; W. 4.7 Outer tail-feathers white *without* terminal black marks. *Ad.* ♂. Wing-coverts spotted, underparts white; nape with a red band. *Ad.* ♀. Similar but nape band white. *Notes.* A sharp *peek* and a Kingfisher-like rattle.
Range.—Eastern United States from North Carolina to Canada.

393a. Northern Hairy Woodpecker (*D. v. leucomelas*). Similar to No. 393, but larger; L. 10; W. 5.2.
Range.—British America north to Alaska.

393b. Southern Hairy Woodpecker (*D. v. audubonii*). Similar to No. 393, but smaller; L. 8; W. 4.2.
Range.—South Atlantic and Gulf States, north to South Carolina.

393c. Harris Woodpecker (*D. v. harrisi*). Similar to No. 393, but wing-coverts usually *without* white spots; underparts dirty, dusky, brownish.
Range.—Pacific coast from northern California to British Columbia.

393d. Cabanis Woodpecker (*D. v. hyloscopus*). Similar to No. 393c, but whiter below.
Range.—California, east to Arizona.

393e. Rocky Mountain Hairy Woodpecker (*D. v. monticola*). Similar to No. 393c, but pure white below; larger, size of No. 393a.
Range.—Rocky Mountain region from northern New Mexico north to British Columbia.

393f. Queen Charlotte Woodpecker (*D. v. picoideus*) Similar to No. 393c, but middle of back barred and spotted with black; flanks streaked with black. (Osgood.)
Range.—Queen Charlotte Islands, British Columbia.

394. Southern Downy Woodpecker (*Dryobates pubescens*). L. 6; W. 3.5. Outer tail-feathers white *with* terminal black marks. *Ad.* ♂. Nape-band red; smallest of group, underparts dingier than in No. 394c; white of less extent; wing-coverts spotted. *Ad.* ♀. Similar but nape-band white. *Notes.* A sharp *peek* and a rattle similar to that of No. 393, but not so loud.
Range.—South Carolina, Georgia, and Gulf States to Texas.

394a. Gairdner Woodpecker (*D. p. gairdneri*). Similar to No. 394b, but underparts sooty gray; the darkest below of any form in the group.
Range.—Pacific coast from northern California north to British Columbia.

394b. Batchelder Woodpecker (*D. p. homorus*). Similar to No. 394c, but wing-coverts with few or no white spots, under tail-coverts without dusky streaks.
Range.—"Rocky Mountain region of the United States." (A. O. U.)

394c. Northern Downy Woodpecker (*D. p. medianus*). L. 6.5; W. 3.7. Similar to No. 394, but larger; whiter below; white markings of greater extent.
Range.—Eastern North America south to South Carolina.

394d. Alaskan Downy Woodpecker (*D. p. nelsoni*). W. 4. Similar to No. 394c, but still larger and whiter; largest of the group.
Range.—Alaska.

394e. Willow Woodpecker (*D. p. turati*). Similar to No. 394a, but smaller, W. 3.8. superciliary patch and underparts whiter; tertials always more or less spotted with white. (W. K. Fisher.)

Range.—"California, *except:* desert ranges and eastern slope of Sierra Nevada, coast region north of Marin Co., and region north of upper end of Sacramento Valley." (W. K. Fisher.)

395. Red-cockaded Woodpecker (*Dryobates borealis*). L. 8.4. Sides of head and neck white bordered by black below. *Ad.* ♂. A nearly concealed red tuft on either side of the hindhead. *Ad.* ♀. Similar, but no red on head. *Notes.* A loud, hoarse, *yank, yank.*

Range. Southern United States; west to eastern Texas; north to Virginia and Arkansas.

396. Texan Woodpecker (*Dryobates scalaris bairdi*). L. 7.5. Outer tail-feathers barred to their base; nasal tufts brownish. *Ad.* ♂. All crown feathers tipped with red; back barred: below *brownish white*, spotted and streaked with black. *Ad.* ♀. Similar but top of head wholly black.

Range.—Northern Mexico, north to Texas boundary, New Mexico, southern Colorado, southern Nevada, southwestern Utah, and southeastern California.

396a. Saint Lucas Woodpecker (*D. s. lucasanus*). Similar to No. 396, but outer tail-feather barred with black only on terminal half or less, except sometimes on inner web. (Ridgw.)

Range.—Lower California, north, rarely to Colorado Desert, California.

397. Nuttall Woodpecker (*Dryobates nuttallii*). L. 7.5. Below white only *slightly* soiled; outer tail-feather barred only on end half. *Ad.* ♂. Crown *black* streaked with white; nape red. *Ad.* ♀. Similar but top of head entirely black, usually with a few white spots. *Yng.* Top of head dull red. *Notes.* A sharp *quee-quee-quee-queep;* a diminutive *chittah.* (Bailley.) Loud rattling notes. (Henshaw.)

Range.—Northern Lower California, north locally, to southern Oregon.

398. Arizona Woodpecker (*Dryobates arizonæ*). L. 8.2. Above *brown*, below *spotted*. *Ad.* ♂. A red nape band. *Ad.* ♀. Similar but no red on nape, brown of crown continuous with that of back. *Yng.* Whole crown red.

Range.—Northwestern Mexico north to southern Arizona and southwestern New Mexico.

399. White-headed Woodpecker (*Xenopicus albolarvatus*). L. 9. Whole head and part of wings white. *Ad.* ♂. Nape red. *Ad.* ♀. Nape white. *Notes.* A sharp, clear *witt-witt;* a rather silent bird. (Bendire.)

Range.—Mountains of western United States from southern California north to southern British Columbia; east to western Idaho and western Nevada.

402. Yellow-bellied Sapsucker (*Sphyrapicus varius*). L. 8.5; W. 4.8. *Ad.* ♂. Crown and throat red; a *whitish* band from eye to eye across nape; belly washed with yellow; breast patch black *Ad.* ♀. Similar, but throat white; crown rarely black. *Yng.* Breast grayish with internal dark rings or bars; crown dirty yellowish margined with dusky; red feathers soon appear on throat and crown. *Notes.* A clear ringing *cleur* repeated; a low snarling cry resembling *mew* of Catbird. (Brewster.)

Range.—Eastern North America; breeds from Massachusetts and northern Illinois north to about Lat. 63° 30'; south in Alleghanies to northwest Georgia; winters from southern Illinois and southern Virginia to Central America.

402a. Red-naped Sapsucker (*S. v. nuchalis*). Similar to No. 402, but slightly larger. W. 5; the nape band *red*; red of throat encroaching on black bordering streaks; female the same but chin white.

Range.—Rocky Mountain region; breeds from Colorado and northeastern California (?), north to British Columbia; winters from southern California south to northwestern Mexico.

403. Red-breasted Sapsucker (*Sphyrapicus ruber*). L. 9. *Ads.* Crown, whole throat and *breast* dull red; in other respects resembling No. 402. *Notes.* *Jay* or *chaë, peeye, pinck, and peurr.* (Bendire.)

Range.—Breeds in mountains from northern Lower California north to southern Oregon.

403a. Northern Red-breasted Sapsucker (*S. r. notkensis*). Similar to No. 403, but colors deeper, red brighter; belly yellower.

Range.—Pacific coast region from Santa Cruz Mountains, California, north to southern Alaska.

404. Williamson Sapsucker (*Sphyrapicus thyroideus*). L. 9. Belly *bright* yellow; rump white. *Ad.* ♂. Above black; a red stripe on throat; lesser wing-coverts white. *Ad.* ♀. Crown and throat brownish; back and lesser wing-coverts barred black and whitish. *Yng.* Similar to ♀, but breast barred like sides. *Notes.* A shrill *buit-buit* uttered when flying. (Bendire.) The roll of this Woodpecker is not continuous, but is broken or interrupted.

Range.—Higher mountain ranges of western United States; breeds from northern New Mexico, Arizona, and southeastern California north to Wyoming and southern British Columbia; winters from southern California and western Texas into Mexico.

408. Lewis Woodpecker (*Asyndesmus torquatus*). L. 11. *Ads.* Breast and a collar around the neck gray; region about base of bill dark red; belly pinkish red; above shining green black. *Yng.* No gray collar; crown suffused with red. *Notes.* A weak peeping twitter. (Lawrence). Generally a silent bird.

Range.—Western United States; breeds from New Mexico, Arizona, and southern California north to southern Alberta and British Columbia; winters from southern Oregon and Colorado south to western Texas and southern California.

406. Red-headed Woodpecker (*Melanerpes erythrocephalus*). L. 9.7. *Ads.* Whole head and breast red; end half of secondaries white. *Yng.* Whole head and breast grayish streaked with blackish; back black margined with grayish; end half of secondaries white with black bars. *Notes.* A tree-toad-like *ker-r-ruck, ker-r-ruck.*

Range.—Eastern United States west to Rocky Mountains; breeds from Florida and Texas north to New York and Manitoba; local and irregular in northern parts of range; winters from Virginia, and occasionally from New York, southward.

407. Striped-breasted Woodpecker (*Melanerpes formicivorus*). L. 9.5. Breast band *streaked with white*; rump white. *Ad.* ♂. Forehead, white, *crown*, nape, and breast-spot red. *Ad.* ♀. Center of crown with a black band of *same* width as white band on forehead. *Notes.* A loud *tchurr, tchurr.*

Range.—Mexico north to southwest Texas and Arizona.

407a. Californian Woodpecker (*M. f. bairdi*). Similar to No. 407, but black breast-band with white only on its posterior margin.

Range.—Pacific coast region from northern California to southern Oregon.

407b. Narrow-fronted Woodpecker (*M. f. angustifrons*). *Ad.* ♂. Similar to No. 407, but smaller, W. 5.2; the throat brighter yellow. *Ad.* ♀. With black crown-band *wider* than white forehead band.

Range.—Cape Region of Lower California.

409. Red-bellied Woodpecker (*Centurus carolinus*). L. 9.5. Center of belly reddish. *Ad.* ♂. Top of head and nape entirely red. *Ad.* ♀. Nape red, crown grayish, forehead tinged with red. *Notes.* A hoarse, *chŭh-chŭh.*

Range.—Eastern United States, west to the Plains; breeds from Florida and Texas to Maryland, Ontario, and South Dakota; winters from Virginia and southern Ohio southward; casually north as far as Massachusetts.

410. Golden-fronted Woodpecker (*Centurus aurifrons*). L, 10.5; center of belly yellow. *Ad.* ♂. Forehead yellow, crown-patch red, nape orange. *Ad.* ♀. Forehead and nape yellow, crown entirely gray. *Notes.* Loud and penetrating. (Bailey.)

Range.—Mexico, north to central Texas.

411. Gila Woodpecker (*Centurus uropygialis*). L. 10. Center of belly yellow. *Ad.* ♂. Top of head and nape *sooty* gray; a red-crown patch. *Ad.* ♀. Top of head and nape entirely sooty gray. *Notes. Dchŭrr, dchŭrr;* when flying, a shrill *huit* like call-note of Phainopepla. (Bendire.)

Range.—Northwestern Mexico, north to southwestern New Mexico, and Lower California.

412. Southern Flicker (*Colaptes auratus*). Smaller than No. 412a, W. 5.6.

Range.—Southeastern United States north to South Carolina.

412a. Northern Flicker (*C. a. luteus*). L. 13; W. 6.4. Crown bluish gray; throat pinkish brown; a scarlet nape-band; lining of wings and tail yellow. *Ad.* ♂. With black patches on the sides of the throat. *Ad.* ♀. Without black throat patches. *Notes.* A loud, emphatic *ket-yer*; a low chuckle when taking flight; a *weéchew* repeated and used only when two or more birds are together: and a mellow *cûh-cûh-cûh-cûh*, repeated, doubtless a song.

Range.—Eastern North America west to the Rocky Mountains and Alaska; rare on the Pacific coast; apparently hybridizing with No. 413 at the western border of its range.

413. Red-shafted Flicker (*Colaptes cafer collaris*). L. 13. No red nape band; crown brownish; throat bluish gray; lining of wings and tail reddish. *Ad.* ♂. Patches at side of throat red. *Ad.* ♀. No red throat patches. *Notes.* Resemble those of No. 412.

Range.—Western United States, except northwest coast region; east to the Rocky Mountain region; apparently hybridizing with No. 412 at the eastern border of its range.

413a. Northwestern Flicker (*C. c. saturatior*). Similar to No. 413, but much darker throughout, back vinous-brown.

Range.—Pacific coast region; breeds from Oregon north to southern Alaska; winters south to northwest California.

414. Gilded Flicker (*Colaptes chrysoides*). L. 12; W. 5.7. Crown cinnamon; under surface of wings and tail yellow. *Ad.* ♂. No red band on nape; throat bluish gray, its sides with a red patch. *Ad.* ♀. No red on sides of throat. *Notes.* Resemble those of No. 412. (Bendire.)

Range.—"Central and southern Arizona from Lat. 34° to southern Sonora, and Lower California south of Lat. 30°." (A. O. U.)

414a. Brown Flicker (*C. c. brunnescens*). Similar to No. 414, but slightly smaller; upperparts darker. (Anthony).

Range.—Lower California north of Lat. 30°.

415. Guadalupe Flicker (*Colaptes rufipileus*). Similar to No. 413, but bill 1.6 or more, more slender, wing averaging less than 6.2; crown cinnamon-brown; rump vinaceous-white. (Ridgw.)

Range.—Guadalupe Island, Lower California.

Order XVI. GOATSUCKERS, SWIFTS, AND HUMMINGBIRDS.

MACROCHIRES.

Family 1. GOATSUCKERS. Caprimulgidæ. 6 species, 6 subspecies.

Family 2. SWIFTS. Micropodidæ, 4 species.

Family 3. HUMMINGBIRDS. Trochilidæ. 17 species.

The Goatsuckers are birds of the dusk and early morning. They live chiefly on insects which they capture on the wing, their enormous mouths being especially well adapted to this kind of hunting. Our species build no nest but lay their two mottled eggs on the bare ground or leaves. The young are hatched covered with down and can follow their parents about long before they acquire the power of flight. Goatsuckers are noted for their singular calls, most of the species uttering loud, characteristic notes which, heard at night, are especially effective.

Swifts are birds of world-wide distribution; about half the seventy-five known species being found in America. They are pre-eminently birds of the air with wings so well developed that few birds can surpass them in power of flight, but with feet so weak and small that many species cannot perch as do most birds, but, when resting, cling to a vertical surface and use their tail to aid their feet in supporting themselves. Their nests are often marvels of architectural skill and constructive ability. The eggs, four to six in number, are white.

Hummingbirds are found only in America where they range from Patagonia to Alaska, but the larger part of the some five hundred known species are found in the Andean region of Columbia and Ecuador. Only one species is found east of the Mississippi, and nine of our sixteen western species advance but little beyond our Mexican border.

Hummingbirds nests are the most exquisite of birds' homes. Their eggs, so far as is known, number two, and are pure white. The young are born naked and, in the case of our Ruby-throat, at least, spend about three weeks in the nest.

The notes of some tropical Hummingbirds are sufficiently varied to be classed as songs but our species utter only sharp squeaks and excited chipperings.

416. Chuck-will's-widow (*Antrostomus carolinensis*). L. 12. Mouth bristles with fine, hair-like branches near their base. *Ad.* ♂. End half of outer tail-feathers white, *rusty, and black on outer webs*; chin chiefly *rusty*; throat-patch buffy. *Ad.* ♀. No white in tail. *Notes.* A loudly whistled *chuck-will's-widow*, repeated many times.

Range.—South Atlantic and Gulf States; breeds north to Virginia and Illinois; west to Kansas and central Texas; winters from southern Florida southward.

417. Whip-poor-will (*Antrostomus vociferus*). L. 9.7. Mouth bristles *without* branches. *Ad.* ♂. Three outer tail-feathers *broadly* tipped with white; white on inner vane of outer feather 1.4 or more wide; throat patch white; chin chiefly black. *Ad.* ♀. Three outer tail-feathers narrowly tipped with rusty buff; throat patch rusty buff. *Notes.* A rapid, vigorous, whistled *whip-poor-will*, repeated many times.

Range.—Eastern North America, west to the Plains; breeds from Gulf States north to New Brunswick and Manitoba; winters from Gulf States southward.

417a. Stephens Whip-poor-will (*A. v. macromystax*). Similar to No. 417, but slightly larger, W. 6.5; mouth bristles much longer; male with throat-patch rusty; white on inner web of outer feather *less* than 1.3 wide.

Range.—"Arizona, New Mexico, and southwestern Texas, south over mountains bordering tablelands of Mexico to Guatemala." (Bailey.)

418. Poor-will (*Phalænoptilus nuttallii*). L. 7.7. Primaries *rusty* barred with black. *Ad.* ♂. Three outer tail-feathers *evenly* tipped with white; a *large* white throat patch; plumage above suggesting in color the wings of certain moths. *Ad.* ♀. Similar, but tail-tips buffy. *Notes.* Variously rendered *poor-will, cow-day, pearl-rob-it, puir-whee-er.*

Range.—Western United States; breeds from Kansas, Nebraska, and Dakota west to eastern slope of Sierra Nevadas; north to Montana and British Columbia; winters from Mexican border southward.

418a. Frosted Poor-will (*P. n. nitidus*). Similar to No. 418, but paler, the upperparts especially whiter, more *frosty*.

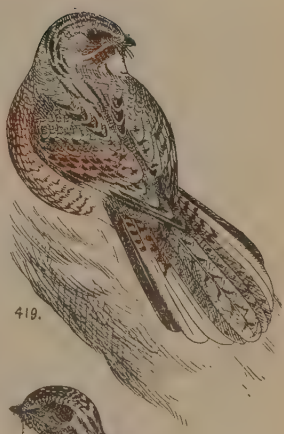
Range.—"Texas to Arizona and from western Kansas south to northern Mexico," (Bailey.) Lower California.

418b. California Poorwill (*P. n. californicus*). Similar to No. 418, but darker.

Range.—Breeds on coast of California, north to Butte County; winters from southern California southward.

419. Merrill Parauque (*Nyctidromus albicollis merrilli*). L. 12; T. 6.2. Outer tail-feather without white. Two color phases, one gray, one rusty. *Ad.* ♂. Outer tail-feather black with sometimes a little rusty, next feather white on inner web, third feather white except at base. *Ad.* ♀. Outer tail-feathers brownish with broken rusty bars; next two with white at tip. *Notes.* A vigorous *ker-whee-you* repeated and sometimes running into a *whit-whit-whit, ker-whee-you.*

Range.—Mexico north to southern Texas; winters chiefly south of Rio Grande.


419.

420. Nighthawk (*Chordeiles virginianus*). L. 10; W. 7.8. Primaries blackish with a white bar and no rusty spots; darkest of our Nighthawks. *Ad.* ♂. Above black with white and buff markings; throat and band near end of tail white. *Ad.* ♀. Throat rusty, no white band in tail. *Notes.* A nasal *peent*; and in the breeding season, a booming sound produced by diving from a height earthward.

Range.—Eastern United States, chiefly breeds from Florida to Labrador, west and northwest to northern California, British Columbia, and Alaska; winters south of United States.

420.

420a. Western Nighthawk (*C. v. henryi*). Similar to No. 420, but markings above rusty and more numerous; belly washed with rusty.

Range.—Western United States, east to the Plains, wintering south of United States; exact distribution unknown.

420b. Florida Nighthawk (*C. v. chapmani*). Similar to No. 420, but smaller (L. 8.6; W. 7.1;) and paler; white and buff markings above larger and more numerous.

Range. Florida, west along Gulf Coast to eastern Texas; south in winter to South America.

420c. Sennett Nighthawk (*C. v. sennetti*). Similar to No. 420b, but still paler, white and buff prevailing on back and scapulars; palest of our Nighthawks.

Range.—Great Plains north to Saskatchewan; winters south of the United States.

421. Texan Nighthawk (*Chordeiles acutipennis texensis*). Wing quills *with* rusty spots; outer primary shorter than one next to it; belly conspicuously washed with rusty buff. *Ad.* ♂. Throat-patch and band near end of tail white. *Ad.* ♀. No white band in tail. *Notes.* A mewing call and a tapping accompanied by a humming sound. (Merrill.)

Range.—Central America; breeding north to southern Texas, southern New Mexico, southern Utah, southern Nevada, and Lat. 38° in California; winters south of United States.

421.

422. Black Swift (*Cypseloides niger borealis*). L. 7; W. 6.5. Tail without spines, slightly forked. *Ads.* Sooty black, paler below; a black spot before the eye; forehead whitish. *Notes.* Generally silent. (Bendire.)

Range.—Breeds from Central America north, in mountains of western United States, to British Columbia; east to Colorado; winters south of United States; more common in Pacific coast states.

423. Chimney Swift (*Chætura pelagica*). L. 5.4; W. 4.9. Tail with protruding spines. *Ads.* Above sooty, rump and underparts paler; throat whitish. *Notes.* A rolling twitter.

Range.—Eastern North America, west to the Plains; breeds from Florida to Labrador and Manitoba; winters south of United States, to Central America.

424. Vaux Swift (*Chætura vauxii*). L. 4.5; W. 4.4. *Ads.* Similar to No. 423, but smaller and somewhat browner. *Notes.* Resemble those of No. 423, but are less frequently uttered. (Bendire.)

Range.—Western United States; breeds on Pacific coast, locally, north to British Columbia; east casually to Montana and Arizona; winters south of United States to Central America.

425. White-throated Swift (*Aëronautes melanoleucus*). L. 6.5. Tail forked, without spines. *Ads.* Above sooty brownish black; breast, middle of belly and flank patches white. *Notes.* A sharp, metallic twitter.

Range.—Western United States; east to western Nebraska and Black Hills; breeds in Rocky Mountains north to Montana; on Pacific coast north to Lat. 38°; winters south of United States to Central America.

426. Rivoli Hummingbird (*Eugenes fulgens*). L. 5.1. A small white spot behind eye. *Ad.* ♂. Crown purple, throat bright green, back bronzy green; tail somewhat more bronzy. *Ad.* ♀. Above bronzy green, all but central tail-feathers with blackish ends and narrow grayish tips; below grayish, all but throat feathers *green centrally*. *Yng.* ♂. Throat with more or less green, belly and above more bronzy than in ♀.

Range.—Nicaragua, north in mountains to mountains of southeastern Arizona and southwest New Mexico; winters south of United States.

429. Black-chinned Hummingbird (*Trochilus alexandri*). L. 3.5; W. 1.7. *Ad.* ♂. Chin and upper throat black, lower throat amethyst; tail forked, feathers pointed. *Ad.* ♀. Throat grayish white; *chin buffy*; tail feathers more rounded, three outer ones tipped with white. *Yng.* ♂. Similar to ♀, but throat with dusky spots.

Range.—Western United States; breeds from San Antonio, Texas, New Mexico, Arizona, and California north to Montana and British Columbia; rare on Pacific coast north of southern California; winters south of United States.

430. Costa Hummingbird (*Calypte costæ*). L. 3.1. No rusty in plumage. *Ad.* ♂. Crown, throat and lengthened neck-feathers amethyst, back dull green. *Ad.* ♀. Below grayish white; above grayish green; outer tail-feathers *gray* at base, then black and at tip white. *Yng.* ♂. Similar to ♀, but throat usually with some amethyst spots; tip of outer tail-feather grayish.

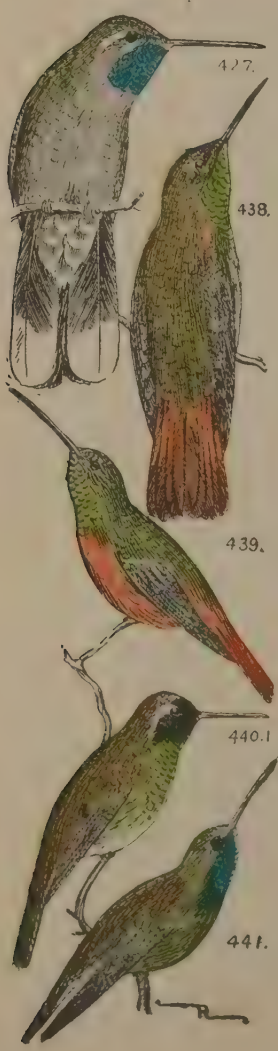
Range.—Northwestern Mexico; breeds north throughout Lower California, to southern California, northern Nevada, southwestern Utah, and southwestern New Mexico; winters from Mexican border southward.

437. Lucifer Hummingbird (*Calothorax lucifer.*) L. 3.6; B. .8. *Ad.* ♂. Throat purplish pink, feathers at its side much lengthened; tail feathers very narrow, the outer ones less than .05 in. wide on end half. *Ad.* ♀. Below nearly uniform *rusty buff*, above bronzy green; tail-feathers white-tipped.

Range.—"From western Texas and southern Arizona south to the city of Mexico and Puebla." (Bailey.)

440. Xantus Hummingbird (*Basilinna xantusi*). L. 3.6. A white streak behind eye. *Ad.* ♂. Chin, forehead and cheeks *black*; throat green; tail rusty brown. *Ad.* ♀. Below uniform rusty, above green; outer tail-feathers rusty brown.

Range.—Lower California, north to Lat. 29°; "most common in Cape Region.



427. Blue-throated Hummingbird (*Cœligena clemenciæ*). L. 5.2. A white *stripe* behind, and a smaller one before eye. *Ad.* ♂. Throat blue; belly grayish; back green; tail blue-black, outer feathers broadly white tipped. *Ad.* ♀. Similar but throat dusky gray.

Range.—Southern Mexico north, in mountains to mountains of southwestern New Mexico and southern Arizona; winters south of United States.

438. Reiffer Hummingbird (*Amazilis tzacatl*). L. 4.1. *Ads.* Above, *throat* and *breast* shining green; belly *grayish*; tail square, rusty brown, *narrowly* margined with coppery. *Yng.* Similar but more rusty above.

Range.—Northern South America; north, rarely, to Lower Rio Grande Valley, Texas.

439. Buff-bellied Hummingbird (*Amazilis cerviniventris chalconota*). Similar to No. 438, but belly *rusty gray*, tail forked and *broadly* margined with coppery green.

Range.—Central America, north, in spring, to Lower Rio Grande Valley, Texas.

440.1. White-eared Hummingbird (*Basilinna leucotis*). L. 3.7. A white line behind eye. *Ad.* ♂. Chin, forehead and cheeks *blue*, throat and breast green, tail blackish bronzy green. *Ad.* ♀. Crown rusty, back bronzy green, below gray spotted with green; outer tail-feathers tipped with gray. *Yng.* ♂. Similar.

Range.—Nicaraugua north, in spring, through mountains to southern Arizona.

441. Broad-billed Hummingbird (*Iache latirostris*). L. 4. *Ad.* ♂. Above green; below darker; throat purplish blue; tail darker. *Ad.* ♀. Below gray; outer tail-feathers green at base, then bluish black tipped with gray. *Yng.* ♂. Similar to Ad. ♀, but tail blue black with faint gray tips; throat with metallic green feathers.

Range.—Southern Mexico; breeds north through mountains to southern Arizona and southwestern New Mexico.

428. Ruby-throated Hummingbird (*Trochilus colubris*). L. 3.5; W. 1.5. *Ad.* ♂. Throat ruby, chin blackish; tail forked, the feathers pointed. *Ad.* ♀. Throat grayish, tail-feathers rounded, three outer ones tipped with white. *Yng.* ♂. Like ♀ but throat with dusky spots. (See next page)

Range.—Eastern North America, west to about Long. 100°; breeds from Florida and eastern Mexico, north to Labrador and Hudson Bay region; winters from southern Florida to Central America.

431. Anna Hummingbird (*Calypte annæ*). L. 3.6. *Ad.* ♂. *Crown* and throat glittering purplish pink; feathers at sides of throat much lengthened. *Ad.* ♀. Above green; below grayish washed with green; throat usually with pink feathers; tail with a narrow white tip. *Yng.* Similar but browner above.

Range.—Western United States, from northern Lower California north to northern California; east to southern Arizona; south in winter to Mexico; recorded from Guadalupe Island.

432. Broad-tailed Hummingbird (*Selasphorus platycercus*). L. 4. *Ad.* ♂. Outer primary very narrow, end sharp; crown green, throat *pink*; tail green above, purplish below without white tips. *Ad.* ♀. Outer tail-feathers rusty at base, then black with a broad white tip; middle feathers *entirely* green; above bronzy green; throat feathers with dusky centers; sides rusty.

Range.—Rocky Mountains; west, rarely to eastern California; north to southern Wyoming and Idaho; winters south of United States.

433. Rufous Hummingbird (*Selasphorus rufus*). L. 3.6. *Ad.* ♂. Next to middle pair of tail-feathers *notched* near tip of inner web; back *reddish brown* sometimes washed with green. *Ad.* ♀. Sides *rusty*, back green, throat spotted with green and sometimes ruby, outer tail-feathers rusty at base, then black and a white tip, the feather *more* than .12 wide; middle tail-feathers green at base, end black. *Yng.* ♂. Similar to ♀ but *all* tail-feathers rusty at base.

Range.—Western United States; breeds from the higher mountains of southern California and Arizona, north to Lat. 61° in Alaska; during migrations east to Montana, Wyoming, Colorado, New Mexico, and western Texas; winters in southern Mexico.

434. Allen Hummingbird (*Selasphorus alleni*). L. 3.6. *Ad.* ♂. Crown and *back green*, and tail rusty tipped with dusky, no notch in tail-feathers; in other respects like No. 433. *Ad.* ♀ *and Yng.* ♂. Like the same of No. 433, but outer tail-feather less than .12 in. wide.

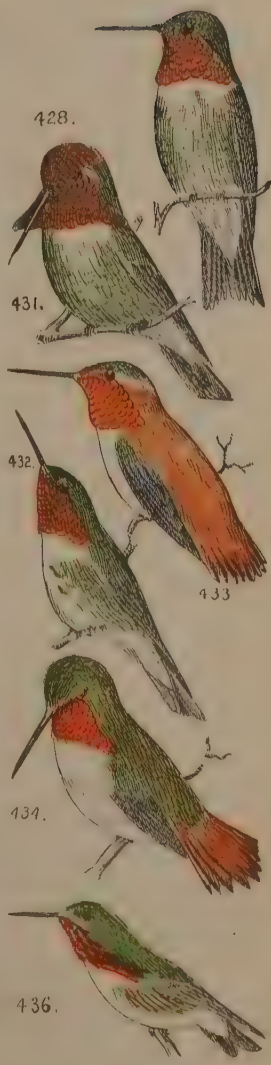
Range.—Pacific coast, from Monterey, California, north to British Columbia; migrates south through Arizona, and southern California to Mexico.

435. Morcom Hummingbird (*Atthis morcomi*). L. 2.9. *Ad.* ♀. Above bronzy green; middle tail-feathers bronzy green tinged with rusty on basal half; rest of tail-feathers rusty brown, then green, then black and tipped with white; below white, sides rusty, throat spotted with bronze-green. (Ridgw.) Male unknown.

Range.—Huachuca Mountains, southern Arizona, (known from one specimen.)

436. Calliope Hummingbird (*Stellula calliope*). L. 3. *Ad.* ♂. Throat purplish pink, white at base *showing through*; above green. *Ad.* ♀. Sides rusty, throat with green spots, above green, outer tail-feathers gray at base, then black, then white *in nearly equal amounts*. *Yng.* ♂. Similar to ♀.

Range.—Mountains of western United States; breeds north to Montana, Idaho, and British Columbia; west to eastern Oregon and eastern California; winters south of United States; rare on Pacific coast of United States.



ORDER XVII. PERCHING BIRDS.

PASSERES.

Family 1. FLYCATCHERS. TYRANNIDÆ. 32 species, 7 subspecies.

Family 2. LARKS. ALAUDIDÆ. 1 species, 13 subspecies.

Family 3. CROWS AND JAYS. CORVIDÆ. 21 species, 14 subspecies.

Family 4. BLACKBIRDS, ORIOLES, ETC. ICTERIDÆ. 18 species, 14 subspecies.

Family 5. FINCHES, SPARROWS, ETC. FRINGILLIDÆ. 87 species, 92 subspecies.

Family 6. TANAGERS. TANAGRIDÆ. 4 species, 1 subspecies.

Family 7. SWALLOWS. HIRUNDINIDÆ. 9 species, 2 subspecies.

Family 8. WAXWINGS. AMPELIDÆ. 3 species.

Family 9. SHRIKES. LANIIDÆ. 2 species, 3 subspecies.

Family 10. VIREOS. VIREONIDÆ. 13 species, 10 subspecies.

Family 11. WARBLERS. MNIOTILTIDÆ. 55 species, 18 subspecies.

Family 12. WAGTAILS. MOTACILLIDÆ. 3 species.

Family 13. DIPPERS. CINCLIDÆ. 1 species.

Family 14. WRENS, THRASHERS, ETC. TROGLODYTIDÆ. 26 species, 24 subspecies.

Family 15. CREEPERS. CERTHIIDÆ. 1 species, 4 subspecies.

Family 16. NUTHATCHES AND TITS. PARIDÆ. 21 species, 20 subspecies.

Family 17. KINGLETS, GNATCATCHERS, ETC. SYLVIIDÆ. 7 species, 3 subspecies.

Family 18. THRUSHES, BLUEBIRDS, ETC. TURDIDÆ. 13 species, 14 subspecies.

The North American members of the Order PASSERES are placed in two Suborders, the *Clamatores*, or so-called Songless Perching Birds, which includes all the Flycatchers, and the Suborder *Oscines*, or Singing Perching Birds, which includes all our remaining Perching Birds. While the Flycatchers are therefore technically classed as songless birds, it does not follow that they have no songs. Sing they do, but because of the less developed condition of their voice-producing organ, they cannot give utterance to the longer and more musical songs of the Oscines, which are supplied with a better musical instrument.

The Flycatchers, (Family *Tyrannidæ*) number somewhat over three hundred and fifty species, and are found only in America, where they are most abundant in the tropics. Feeding almost exclusively on insects, those species which visit the United States are of necessity migratory, not more than half a dozen of the thirty species which nest with us, remaining in the United States during the winter, and these are found only on our southern borders.

Flycatchers as a rule, capture their prey on the wing. When perching, their pose is usually erect and hawk-like. They often raise their crown feathers, which in many species are somewhat lengthened, a habit giving them a certain big-headed appearance.

Flycatchers are most useful birds. The food of the Kingbird, for example, a species which is erroneously believed to destroy honey bees, has been found to consist of 90 per cent. insects, mostly injurious species, while only fourteen out of two hundred and eighty-one stomachs contained the remains of honey bees; forty of the fifty bees found being drones.

The true Larks, (Family *Alaudidæ*) are chiefly Old World birds, the Skylark being the best known member of the Family. In America we have only the Horned or Shore Larks, one species of which shows so much climatic variation in color throughout its wide range, that no less than thirteen subspecies or geographical races of it are recognized in the United States.

The Horned Lark is a bird of the plains and prairies and is less common in the Atlantic States than westward. Like the Skylark it sings in the air, but its vocal powers are limited and not to be compared with those of its famous relative.

The Crows and Jays, (Family *Corvidæ*) number about two hundred species of which some twenty-five inhabit the western hemisphere. To this family belong the Raven, Rook, Magpie and Jackdaw, all birds of marked intelligence; and our Crows and Jays are fully worthy of being classed with these widely known and distinguished members of their family.

The Crows and Jays, by varying their food with the season, are rarely at loss for supplies of one kind or another and most species are represented throughout their ranges at all times of the year. In the more northern parts of their homes, however, some of these birds are

migratory, and Crows, as is well known, gather in great flocks during the winter, returning each night to a roost frequented, in some instances, by two or three hundred thousand Crows.

While the Crows and Jays are technically 'Song Birds' their voices are far from musical. Nevertheless they possess much range of expression and several species learn to enunciate words with more or less ease.

The Starlings, (Family *Sturnidæ*) are Old World birds represented in America only by the European Starling which was introduced into Central Park, New York City, in 1890 and is now common in the surrounding country.

The Blackbirds, Orioles, and Meadowlarks, (Family *Icteridæ*) number about one hundred and fifty species and are found only in the New World. The Blackbirds are most numerous in North America, where, migrating in vast armies and often living in large colonies, they become among the most characteristic and conspicuous of our birds.

The Orioles are most numerous in the tropics, where some thirty species are known. Apparently all of them are remarkable as nest builders, the large Cassiques, nearly related, great yellow and black birds, weaving pouches three and four feet long, several dozen of which, all occupied, may be seen swinging from the branches of a single tree.

The Finches, Sparrows, Grosbeaks, etc., (Family *Fringillidæ*) number nearly six hundred species, a greater number than is contained in any other family of birds. They are distributed throughout the world, except in the Australian region, some ninety odd species inhabiting North America.

Varying widely in color, the Fringillidæ all agree in possessing stout, conical bills, which are of service to them in crushing the seeds on which they feed so largely.

The streaked, brownish Sparrows, often so difficult of identification, are usually inhabitants of plains, fields, or marshes, where they are rendered inconspicuous by their dull colors. The more gayly attired Grosbeaks, Buntings, Cardinals etc., frequent trees or bushy growths, where their plumage either harmonizes with their surroundings or where they have the protection afforded by the vegetation.

Most of the members of this family are good singers, some of them

indeed being noted for their powers of song. They are less migratory than insect-eating birds and some species are with us at all seasons. Their abundance, musical gifts, and constant presence render them, from the field student's point of view, highly important members of the great class Aves.

From an economic standpoint the Fringillidæ are no less deserving of our esteem. Some species are of incalcuable value as destroyers of the seeds of noxious weeds. Fifteen hundred seeds have been found in the stomach of one Snowflake or Snowbunting, and it has been estimated by Professor Beal, of the Biological Survey of the United States Department of Agriculture, that during the winter season, in the single State of Iowa, where his studies were made, Tree Sparrows devour no less than 875 *tons* of weed seeds, chiefly of the ragweed.

The Tanagers, (Family *Tanagridæ*) are found only in the New World, where they are most numerously represented in the tropics. As a family they are remarkable for the brilliancy of their colors; the common, but mistaken idea that most tropical birds are brightly clad being in no small part due to the abundance of Tanagers and beauty of their plumage.

Only five of the some three hundred and fifty known species reach the United States and these are migratory, coming to us in the spring and returning to the tropics in the fall. Tanagers, as a rule, are not possessed of much vocal ability, our species ranking high in their family as songsters, the notes of many species being far less musical.

Like most gaily costumed birds the plumages of many Tanagers undergo striking changes in color with age and season. The male of our Scarlet Tanager, for example, is olive-green with black wing-coverts during his first winter, the scarlet plumage not being acquired until the following spring. It is worn, however, only during the nesting season after which the less conspicuous olive-green dress is again acquired, the wings and tail, however, remaining black.

Swallows, (Family *Hirundinidæ*) are of world-wide distribution, and as might be expected in birds possessing such remarkable powers of flight, many of the species have unusually extended ranges. Our Barn Swallow, for example, is found throughout North America in summer, and in the winter it migrates as far south as southern Brazil.

Birds of the air, the aerial habits of Swallows are reflected in their

long wings and small, weak feet; while their small bills and broad, widely opening mouths indicate their manner of feeding.

In spite of their poor equipment of tools, Swallows take high rank as nest builders, and it is interesting to observe that although the birds are structurally much alike, their nests often differ widely in character. Compare for instance, the mud-made dwellings of the Barn and Cliff Swallows with the tunneled hole of the Bank Swallow and one realizes how little the character of a bird's home may depend on the structure of it's builder.

The food of Swallows, remarks Professor Beal, "consists of many small species of beetles which are much on the wing, many species of diptera (mosquitoes and their allies), with large quantities of flying ants and a few insects of similar kinds. Most of them are either injurious or annoying, and the numbers destroyed by Swallows are not only beyond calculation, but almost beyond imagination."

The true Waxwings, (Family *Ampelidæ*) number only three species with representatives in the northern parts of both hemispheres. Their notes, as a rule are limited to a few unmusical calls, which, with our Cedar Waxwing, are usually uttered when the bird is about to fly.

Waxwings are found in small flocks during the greater part of the year and roam about the country as though they were quite as much at home in one place as in another, provided food be plenty. Small fruits, chiefly wild ones, constitute their usual fare, but they also feed on insects, the injurious elm beetle being among their victims.

The Shrikes, (Family *Laniidæ*) are represented in America by only two species, the remaining two hundred or more members of this family being found in the Old World. Shrikes are noted for their singular habit of impaling their prey on thorns or similarly sharp-pointed growths, or occasionally they may hang it in the crotch of a limb. This proceeding enables them to tear it to pieces more readily, for it will be observed that while Shrikes have a hawk-like bill, their feet are comparatively weak and sparrow-like and evidently of no assistance to them in dissecting their food.

Our Northern Shrike, or Butcherbird, feeds chiefly on small birds and mice, while the southern species, or Loggerhead, is a great destroyer of grasshoppers and he also eats lizards and small snakes.

The Vireos, (Family *Vireonidæ*) number fifty species, all American.

They search the foliage carefully for leaf-eating insects and their eggs, and examine the crevices in the bark for eggs of the injurious wood-boring insects. They are therefore unusually beneficial birds.

Bearing a general resemblance in size and color to many of the Warblers, Vireos are sometimes confused with members of that family. They are, however, as a rule, more deliberate in their motions and not such active flutterers as are many of the Warblers. They are also more musical, all the Vireos having characteristic songs, which if not always highly musical, are generally noticeable, pronounced and unmistakable.

The nests of all our Vireos are pendant, deeply cup-shaped structures usually hung between the forks of a crotch, to the arms of which they are most skilfully woven.

The Warblers, (Family *Mniotiltidæ*) like the Vireos are distinctly American birds, indeed they may be called characteristic North American birds since most of the one hundred odd species are found north of Mexico. Between thirty and forty species of these active, beautiful little creatures may be found in the course of a year at a single locality in the Eastern States and they therefore constitute an exceedingly important element in our bird-life. Most of them come in May at the height of the spring migration, when the woods often swarm with them as they flit from limb to limb in pursuit of their insect food. The larger number of them pass onward to their northern homes and in September they return to us in increased numbers.

The beauty of their plumage, the briefness but regularity of their visits, the rarity of certain species, combine to make the Warblers especially attractive to the field student and their charms are heightened by the difficulty with which many of them are identified. Study them as we may there are still species which have escaped us.

By far the larger number of Warblers may be described as flutterers that feed agilely about the terminal branches, (genera *Dendroica* and *Helminthophila*); others are true flycatchers, so far as feeding habit is concerned, (genera *Setophaga* and *Wilsonia*,) while others still feed in the undergrowth or on the ground, (genera *Geothlypis* and *Seiurus*). Insects constitute almost their entire fare and they are among our most beneficial birds.

Most of the Wagtails (Family *Motacillidæ*), are inhabitants of the

Old World, only three of the sixty odd species being found in this country. Our Pipit or Titlark is our best known, most widely distributed species.

Like other members of its family it has the habit of wagging or tipping its tail both when walking (for it should be noted that these birds are ground-inhabiting and walkers) and at rest.

The Dippers (Family *Cinclidæ*) though numbering only twelve species are distributed throughout the larger part of the world from the Andes of South America to the mountains of Alaska, Europe, Asia and Africa.

Everywhere they are haunters of streams, usually dashing mountain torrents, over and *under* which they seem equally at home. Darting into the rushing waters they fly beneath the surface or feed on the bottom with perfect ease, their thick, dense plumage evidently forming a waterproof covering. Their nests are great balls of moss often placed so near some boiling cascade as to receive frequent showers of spray. The opening, however, is at the side, and the eggs and young are well protected by an effective roof.

The Wrens, Thrashers, and Mockingbirds, (Family *Troglodytidæ*) form two well defined subfamilies. The Wrens, (Subfamily *Troglodytinæ*) number about one hundred and fifty species all but a dozen of which are confined to America. The Thrashers and Mockingbirds, (Subfamily *Miminæ*) number some fifty species, all of which are confined to America.

As their dull, neutral colors would lead us to suppose, both Wrens and Thrashers are inhabitants of the lower growth rather than of the tree-tops, and while they may seek an elevated perch whence to deliver their song, their food is secured and their time consequently largely passed near or on the ground.

Few families of birds contain so many noted musicians, nearly every member of this family being a singer of more than usual ability.

The Creepers, (Family *Certhiidæ*) number twelve species, only one of which is found in America. This, however has a wide range and, presenting more or less climatic variation in color, is recognized under several subspecific names. Its habits, nevertheless, are much the same everywhere. It climbs the trees of the mountains of Mexico or of California with the same ceaseless energy it shows in Maine.

The sharply-pointed, stiffened tail-feathers of the Creeper are of evident use to it as it ascends trees and pauses here and there to pick

out an insect's egg from the bark. The same type of tail feather is shown by Woodpeckers, an excellent illustration of similar structure accompanying similar habits in birds not at all closely related.

The Nuthatches and Titmice, (Family *Paridæ*), like the Wrens and Thrashers, belong in two well marked Subfamilies; The Nuthatches, (Subfamily *Sittinæ*) number about twenty species, only four of which inhabit America; the Titmice, (Subfamily *Parinæ*) number some seventy-five species, of which thirteen are American.

Nuthatches are tree-creepers, but climbing up or down with equal ease, their tail is not employed as a prop, and consequently shows no special development of pointed or stiffened feathers. Their toes, however, are long, and their nails large and strong, evidently giving them a firm grip on the bark of trees.

The Chickadees are generally resident birds and, as a rule, whatever species we find in a given locality are apt to be there throughout the year. We therefore become better acquainted with some of these birds than with others which are with us only a short season. This is especially true of our eastern Black-capped Chickadee, which comes familiarly about our homes in winter to partake of the feast of nuts and suet which we spread for him at that season.

Feeding largely on the eggs or larvæ of insects particularly injurious to trees, the Nuthatches and Titmice are of great value to man.

The Kinglets, Gnatcatchers, and Old World Warblers, (Family *Sylviidæ*) number about one hundred and twenty-five species, which are divided among the following well-defined subfamilies: The Kinglets, (Subfamily *Regulinæ*) seven species, three of which are American; the Gnatcatchers, (Subfamily *Polioptilinæ*) some fifteen species, all American; the Old World Warblers, (Subfamily *Sylviinæ*) about one hundred species, all Old World except one which inhabits the Bering Sea coast of Alaska.

The Kinglets are small, olive green birds which may be mistaken for Warblers but, aside from structural differences not evident in the field, they may be known by their smaller size, greater tameness, and habit of nervously flitting their wings at frequent intervals. One of our species, the Ruby-crown, possesses a remarkably loud, clear, and musical song, a surprising performance for so tiny a songster. Kinglets build large nests of moss and feathers and lay as many as ten eggs.

The Gnatcatchers are small, slender, grayish birds which once well seen will not be confused with other species. The Gnatcatchers, like the Kinglets, are architects of more than usual ability, building a nest beautifully covered with lichens.

The Thrushes, (Family *Turdidæ*) are variously classified by different ornithologists, but under the ruling of the American Ornithologists' Union they are grouped in the same family with the Bluebird, Solitaires, and Stonechats. This family numbers about three hundred species, of which about one-half are true Thrushes (Subfamily *Turdinæ*). The members of this subfamily are, as a rule, fine singers, many of them being among the best known song birds, and from a musical point of view the group, as a whole, is usually given the first place among birds. If, however, all the fifteen known species of Solitaires sing as well as the four species it has been my privilege to hear, I am assured that no one would dispute their claim to the highest rank which can be awarded singing birds.

In the succeeding pages, the five hundred and fifty odd species and subspecies included in the preceeding families of the Order Passeres are grouped according to some obvious color character in order to facilitate their identification in life. A satisfactory arrangement of this kind is out of the question. Lines sharply separating the groups proposed do not exist and some species appear to fit in one section as well as in another. Nevertheless, it is hoped that in most instances, the system will be found to serve the purpose intended. Under its ruling our Perching Birds are grouped as follows:

1. With red markings.
2. With blue markings.
3. With orange or yellow markings.
4. With reddish brown or chestnut markings, chiefly in the form of patches or uniformly colored areas.
5. Brownish, generally streaked birds.
6. Dull, inconspicuously colored birds, without prominent markings.
7. Gray, black, or black and white birds.

While the first object of the bird student is to learn to name birds I would again urge him to acquaint himself with at least the arrangement of the Orders and Families of our birds and their leading structural characters. (see page 2.)

Having identified a bird, its family may always be determined by referring to its number in the systematic list of birds at the end of the book; and the more important characters of its Order and Family will be found in the synopsis of Orders and Families beginning on page 9.

607. Louisana Tanager (*Piranga ludoviciana*). L. 7.5. *Ad.* ♂. Yellow; back, wings, and tail black, head more or less red. *Ad.* ♀. Above olive-green, head rarely red-tinged; below dusky greenish yellow; wings and tail brownish edged with greenish, two yellowish white wing-bars. *Yng.* ♂. Like ♀, but head and rump greener, underparts yellower. *Notes.* Call, *clit-tuck*; song, resembles that of No. 608.

Range.—Western United States from the Plains to the Pacific; breeds from Arizona to British Columbia; winters in Mexico and Central America.

608. Scarlet Tanager (*Piranga erythrômelas*). L. 7.4. *Ad.* ♂. Scarlet; wings and tail black. *Ad.* ♀. Olive-green, yellower below, wings and tail blackish brown, no wing-bars. *Yng.* ♂. Like ♀, but brighter, wing-coverts black. *Ad.* ♂, *Winter.* Like Yng. ♂, but wings and tail black. *Notes.* Call, *chip-churr*; song, a rather forced whistle, suggesting a Robin's song, but less musical, *Look-up, way-up, look-at-me, tree-top*; repeated with pauses.

Range.—Eastern United States, west to the Plains; breeds from Virginia and southern Illinois north to New Brunswick and Manitoba; winters in Central and South America.

609. Hepatic Tanager (*Piranga hepatica*). L. 7.8. Bill large. *Ad.* ♂. Vermilion, back grayish; tail dull red. *Ad.* ♀. *No wing-bars*; above *grayish* olive; crown and tail greener; below dusky yellow. *Yng.* ♂. Like ♀ and variously intermediate between it and ad. ♂. *Notes.* Call, *clut-tuck*; song, like that of No. 608, but somewhat more robin-like.

Range.—From Guatemala north in spring to New Mexico and Arizona; winters in Mexico and Central America.

610. Summer Tanager (*Piranga rubra*) L. 7.5; W. 3.8. *Ad.* ♂. Rosy red. *Ad.* ♀. Olive-yellow above, dusky saffron below. *Yng.* ♂. Variously intermediate between *Ad.* ♂ and ♀. *Notes.* Call, *chicky-tucky-tuck*; song, resembles in form that of No. 608 but is more musical and less forced.

Range.—Eastern United States, west to the Plains; breeds from Florida and western Texas north to southern New Jersey, southern Illinois, and Kansas; winters in Central and South America.

610a. Cooper Tanager (*P. r. cooperi*). Similar to No. 610, but larger; W. 4; bill more swollen, colors paler.

Range.—"Breeds from southwestern Texas to the Colorado Valley, California, and from Arizona and New Mexico to northwestern Mexico; south in winter to western Mexico; casually to Colorado."

593. Cardinal (*Cardinalis cardinalis*). L. 9; W. 3.7; T. 4.1. *Ad.* ♂. Forehead with a well-defined black band; feathers of back (except in worn plumage) tipped with *olive-brown* or *olive-gray*. *Ad.* ♀. Above olive-brown; crest, wings and tail dull red edged with olive-brown; throat and region at base of bill gray; breast buffy, sometimes tinged with red; belly whiter. *Notes.* Call, a sharp, insignificant *tsip*; song, a rich, sympathetic whistle, *whe-e-e-you*, *whe-e-e*, *hurry-hurry-hurry*, *quick-quick-quick*, and other notes.

Range.—Eastern United States; resident from northern Florida and eastern Texas north to southern New York and Iowa.

593a. Arizona Cardinal (*C. c. superbus*). Largest of our Cardinals, L. 9.5; W. 4; T. 4.9. *Ad.* ♂. Paler, more rosy, than No. 593; margins to back feathers usually gray; black on forehead usually separated by base of culmen. *Ad.* ♀. Gray above like No. 593c, but breast richer, much as in No. 593d; gray of throat more restricted and often confined to the chin.

Range.—Southern Arizona and northern Sonora, Mexico.

593b. Saint Lucas Cardinal (*C. c. igneus*). Similar to No. 593a, but smaller; W. 3.6; T. 4; ♂ with even less, sometimes almost no black on forehead; ♀ paler; gray on chin and about base of bill less defined.

Range.—Southern Lower California.

593c. Gray-tailed Cardinal (*C. c. canicaudus*). W. 3.7. *Ad.* ♂. Red bright as in No. 593d, but black on forehead narrower, usually separated by base of culmen. *Ad.* ♀. Grayer than ♀ of No. 593, the edgings of wings and tail usually gray *without* an olive tinge.

Range.—Texas, except western and northeastern parts, and northeastern Mexico.

593d. Florida Cardinal (*C. c. floridanus*). Smaller than No. 593, W. 3.4; ♂ averaging deeper red; ♀ darker and richer in color, particularly on breast.

Range.—Southern half of Florida.

594. Arizona Pyrrhuloxia (*Pyrrhuloxia sinuata*). L. 9; W. 3.6; T. 4.1. *Ad.* ♂. Gray; in fresh plumage washed with brownish; crest, wings and tail externally dull red; under wing-coverts, center of breast and of belly, throat, and region about base of bill, rosy red. *Ad.* ♀. Usually little or no red about bill or on underparts. *Notes.* Call, several flat, thin notes; song, a clear, straight whistle. (Bailey.)

Range.—Northwestern Mexico, north to western Texas, southwestern New Mexico, and Arizona.

594a. Texas Pyrrhuloxia (*P. s. texana*). Similar to No. 594, but bill larger; underparts averaging slightly grayer; red before eyes averaging duskier.

594b. Saint Lucas Pyrrhuloxia (*P. s. peninsulæ*). Similar in color to No. 594, but decidedly smaller, with the bill larger; W. 3.4; T. 3.7. (Ridgw.)

Range.—Cape Region of Lower California.

515. Pine Grosbeak (*Pinicola enucleator leucura*). L. 8.5; W. 4.6. *Ad.* ♂. Rosy red in varying amounts; belly gray; wings, tail and center of back feathers blackish brown; two white wing-bars. *Ad.* ♀. Gray, head and rump greenish; breast tinged with greenish. *Yng.* ♂. Like ♀, but with head and rump reddish. *Notes.* Song, sweet; in winter strong and cheery; in spring tender and plaintive. (Chamberlain.)

Range.—Northeastern North America; breeds from New Brunswick and northern New England northward; winters south, irregularly, to southern New England, Ohio, and Manitoba, and casually to District of Columbia and Kansas.

515a. Rocky Mountain Pine Grosbeak (*P. e. montana*). Similar to No. 515b, but decidedly larger, W. 4.8, and coloration slightly darker; the adult male with the red of a darker, more carmine hue. (Ridgw.)

Range.—"Rocky Mountains of United States, from Montana and Idaho to New Mexico." (Ridgway.)

515b. California Pine Grosbeak (*P. e. californica*). Similar to No. 515, but ♂ with red much brighter; feathers of back plain ashy gray without darker centers; ♀ with little if any greenish on rump.

Range.—Higher parts of "Central Sierra Nevada, north to Placer County and south to Fresno County, California" (Grinnell.)

515c. Alaskan Pine Grosbeak (*P. e. alascensis*). Similar to No. 515, but decidedly larger with smaller or shorter bill and paler coloration, both sexes having the gray parts of the plumage distinctly lighter, more ashy. (Ridgw.)

Range. "Northwestern North America except Pacific coast, breeding in interior of Alaska; south, in winter, to eastern British Columbia, Montana (Bitterroot Valley), etc." (Ridgway.)

515d. Kadiak Pine Grosbeak (*P. e. flammula*). Similar to No. 515, but with much larger, relatively longer and more strongly hooked bill; wings and tail grayish brown instead of dull blackish.

Range.—"Kadiak Island and south on the coast to Sitka, Alaska." (Ridgway.)

521. American Crossbill (*Loxia curvirostra minor*). L. 6.1; W. 3.4; B. .66. Tips of mandibles crossed. *Ad.* ♂. Red, more or less suffused with greenish or yellow. *Ad.* ♀. Olive-green, rump and underparts yellower. *Yng.* Resemble Ad. ♀. *Notes.* Calls, when feeding, a conversational twittering; louder and more pronounced when flying; song, sweet, varied and musical, but of small volume.

Range.—Northern North America, chiefly eastward; breeds from northern New England (in Alleghenies from Georgia) north and west to Alaska; winters south irregularly to Virginia and Nevada; casually to South Carolina and Louisiana.

521a Mexican Crossbill (*L. c. stricklandi*). Similar to No. 521, but larger; W. 4; B. .78.

Range.—"Mountains of Wyoming and Colorado, west to the Sierra Nevada, and south through New Mexico, Arizona and the tablelands of Mexico to Guatemala." (A. O. U.)

522. White-winged Crossbill (*Loxia leucoptera*). L. 6. Tips of mandibles crossed. *Ad.* ♂. Rose-pink; middle of back black; wings with *two white bars*. *Ad.* ♀. Olive-green and dusky; rump and underparts yellower; *wings with two white bars*. *Yng.* Like Ad. ♀. *Notes.* Resemble those of No. 521.

Range.—Northern North America; breeds from northern New England, northern New York and northern Michigan northward; winters south irregularly to Virginia, Illinois, British Columbia, and Nevada.

595. Rose-breasted Grosbeak (*Zamelodia ludoviciana*). L. 8. *Ad.* ♂. Black; rump, belly, tips of inner vanes of outer tail-feathers and patch in wing white; under wing-coverts and breast rose. *Ad.* ♀. Under wing-coverts saffron; above streaked brown and black; below whitish streaked with blackish; a *white line over eye*; two white wing-bars. *Yng.* ♂. Resembles ♀, but under wing-coverts *rose*; breast more or less rose-tinged. *Notes.* Call, a sharp, steely *peek*; song, a rich, fluent, joyous carol.

Range.—Eastern United States, west to the Plains; breeds from northern New Jersey, northern Ohio, and northern Indiana (and south in Alleghanies to North Carolina), north to Nova Scotia and Manitoba; winters in Central and South America.

517. Purple Finch (*Carpodacus purpureus*). L. 6.2; W. 3.2. Bill swollen and rounded; nostrils large, partially covered by projecting, grayish, bristly feathers; tail slightly forked. *Ad.* ♂. Dull rose, head and rump brightest; back brownish; lower belly white. *Ad.* ♀. Above grayish brown, slightly edged with whitish and brownish ashy; below white streaked with dark brownish; a more or less distinct whitish stripe over the eye. *Yng.* Resemble Ad. ♀. *Notes.* Call, *creak, creak*, and a querulous whistle; song, a sweet, rapidly flowing warble. (See page 175.)

Range. Eastern North America, west to the Plains; breeds from northern New Jersey, the mountains of Pennsylvania, and northern Illinois northward; winters from the northern States to the Gulf of Mexico.

517a. California Purple Finch (*C. p. californicus*). Similar to No. 517, but ♂ duller and darker; ♀ *decidedly* olive greenish above. (See page 175.)

Range.—Pacific coast region; breeds in the mountains of California; west of the Sierra north to British Columbia; winters from central Oregon to southern Arizona.

518. Cassin Purple Finch (*Carpodacus cassini*). L. 6.5. *Ad.* ♂. Similar to Ad. ♂ of No. 517 and No. 517a, but back much blacker, streaks more sharply defined; crown as bright but appearing *like a cap*; below much paler. *Ad.* ♀. Similar to Ad ♀ of No. 517a, but larger and more sharply streaked with black, both above and below. *Notes.* Resemble those of No. 517.

Range.—Western United States, east to the eastern base of the Rockies, west to the Pacific; breeds in the mountains from New Mexico north to British Columbia.

519. House Finch (*Carpodacus mexicanus frontalis*). L. 6.1; W. 3.1. *Ad.* ♂. Throat, breast, *forehead, line over eye*, and rump, bright rose-red; back grayish brown tinged with red; belly white, streaked with brownish. *Ad.* ♀. Above brownish gray obscurely streaked with brownish, *no olive* tint; below white streaked with brownish. *Ad.* ♂ *in Winter.* Red areas dull purplish pink tipped with grayish. *Yng.* Resemble Ad. ♀. *Notes.* Call, nasal, in chorus, chattering; song, a musical cheery, varied warble, reminding one of that of No. 517, but recognizably different.

Range.—Western United States, east to the Plains, west to the Pacific, and from northern Mexico north to southern Wyoming and Oregon.

519b. St. Lucas House Finch (*C. m. ruberrimus*). Similar to No. 519, but smaller, W. 2.8; red more extended, always showing in males on under tail-coverts.

Range.—Southern Lower California.

519c. San Clemente House Finch (*C. m. clementis*) Similar to No. 519, but wing and tail averaging shorter, the bill decidedly, and feet slightly larger; coloration somewhat darker. W. 3; B. .48. (Ridgw.)

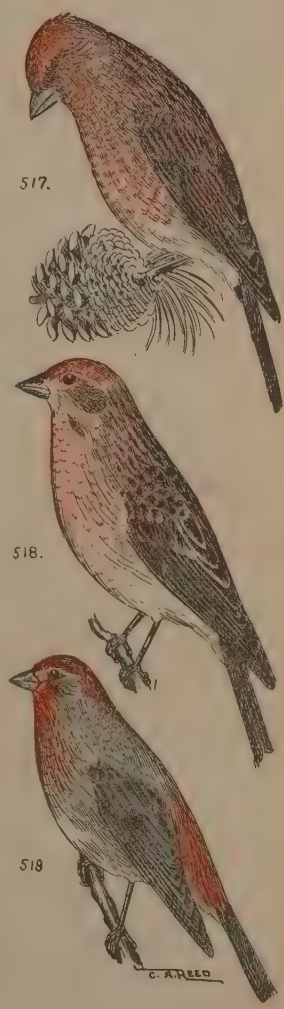
Range.—Santa Barbara Island, California; Todos Santos Island, Lower California.

520. Guadalupe House Finch (*Carpodacus amplus*). Similar to No. 519, but red deeper; back dark brown without red suffusion.

Range.—Guadalupe Island, Lower California.

520.1 San Benito House Finch (*Carpodacus mcgregori*). Similar to No. 519, but much larger with relatively shorter wings and tail; above much grayer and more distinctly streaked; red areas paler, more flesh-colored, often dull yellow; W. 3.2; T. 2.5; B. .5. (Ridgw.)

Range.—San Benito Island, Lower California.



527. Greenland Redpoll (*Acanthis hornemanni*). L. 6.1; W. 3.3. A red crown-patch. *Ad.* ♂. Rump, lower breast, sides and belly *white*, generally *unstreaked*; breast and rump sometimes faintly tinged with pink. In winter. Throat, breast, and above washed with buff. *Ad.* ♀. Similar to ♂, but no pink on breast or rump, sides sometimes lightly streaked.

Range.—Breeds in Greenland; winters south to Labrador.

527a. Hoary Redpoll (*A. h. exilipes*). Similar to No. 527. but smaller and darker; rump still *white*, but with sides more apt to be streaked; L. 5; W. 3; T. 2.3; B. .3.

Range.—Breeds in Arctic regions; in America, winters south irregularly to Massachusetts, Ontario, northern Illinois, and Michigan.

528. Redpoll (*Acanthis linaria*). L. 5.3; W. 2.8; T. 2.3. B. .36. Crown-cap red. *Ad.* ♂. Above blackish brown edged with yellowish brown and some whitish; rump *heavily* streaked with blackish edged with whitish and tinged with rose; breast rose; sides heavily streaked. *Ad.* ♀. Similar, but no pink on rump or breast. *Yng.* ♂. Like female. *Notes.* Call like that of Goldfinch or Siskin and *chit*; song like that of American Goldfinch but distinct. (Minot.)

Range.—Breeds in northern parts of northern hemisphere; in America, winters south to northern United States, irregularly to Virginia, Alabama, Kansas, Colorado, and northern California.

528a. Holbœll Redpoll (*A. l. holbœllii*). Similar to No. 528, but larger, the bill longer; W. 3.2; T. 2.3; B. .38.

Range.—Breeds in northern parts of northern hemisphere; in America, winters south, casually to northern United States. (Quebec, Ontario, and Massachusetts.)

528b. Greater Redpoll (*A. l. rostrata*). Similar to No. 528, but larger, above darker; L. 5.5; W. 3.2; T. 2.5; B. .35; depth at base, .28.

Range.—"Southern Greenland in summer, migrating south in winter, through Labrador to (sparingly) the northern border of the United States, (New England, lower Hudson Valley, northern Illinois, etc.), and west to Manitoba." (Ridgway.)

749. Ruby-crowned Kinglet (*Regulus calendula*). L. 4.4. A conspicuous whitish eye-ring. *Ad.* ♂. A more or less concealed vermilion crown-patch; back olive-green; underparts soiled whitish more or less tinged with buffy; two white wing-bars. *Ad.* ♀ *and Yng.* Similar, but no crown-patch. *Notes.* Call, a wren-like *jack*; song, a surprisingly loud, rich, musical, varied, flute-like whistle.

Range.—North America; breeds from the northern border of the United States northward and south in the Rocky Mountains to Arizona and on the Sierra Nevada of California; winters from South Carolina and Oregon southward to Central America.

749a. Sitkan Kinglet (*R. c. grinnelli*). Similar to No. 749, but more olive-green above, more buffy below.

Range.—Pacific coast; breeds in southern Alaska; winters southward to California.

750. Dusky Kinglet (*Regulus obscurus*). Similar to No. 749, but above sooty olive. *Ad.* ♂. With crown-patch pinkish or purplish vermilion-red. (Ridgw.) (See page 176.)

Range.—Guadalupe Island, Lower California.

—**European Goldfinch** (*Carduelis carduelis*). L. 5.50. Feathers at base of bill red; crown and neck-stripe black; back brownish; wings with a yellow band; inner webs of tail-feathers tipped with white; below white tinged with brownish. *Notes.* Call, *twit*; song, 'sweet and varied." (See page 176.)

Range.—Introduced in this country near Hoboken, N. J., in 1878; now not uncommon near New York City.

443. Scissor-tailed Flycatcher (*Muscivora forficata*). L. 14.5. *Ad.* ♂. Above gray, back washed with red or yellow; crown-patch red. *Ad.* ♀. Similar, but tail shorter, red less bright, back grayer. *Notes.* Loud, harsh, chattering notes uttered on the wing.

Range.—Central America and Mexico: breeds through Texas north to southern Kansas and western Louisiana, and winters south to Central America: accidental in Florida and as far north as Connecticut and Hudson Bay.

471. Vermilion Flycatcher (*Pyrocephalus rubineus mexicanus*). L. 6. *Ad.* ♂. Crown and underparts red; back grayish brown. *Ad.* ♀. Above brownish, below white, breast streaked with dusky, belly red or yellow. *Yng.* ♂. Similar to ♀ but spotted with red below and on crown. *Notes.* A shrill *ți-brée, ți-brée,* uttered while the bird hovers twenty or thirty feet up in the air. (Bendire.)

Range.—Central America and Mexico, breeding north to southern Texas, New Mexico, Arizona, southwestern Utah (rarely); "winter visitant to southern California." (Grinnell.)

688. Painted Redstart (*Setophaga picta*). L. 5.4. *Ads.* Black; center of breast and belly deep red, patch in wings and outer tail-feathers white.

Range—Mexican plateau north to southwest New Mexico and Arizona.

690. Red-faced Warbler (*Cardellina rubrifrons*). L. 5.2. *Ads.* Forehead, face, throat and sides of neck red, crown and ear-coverts black, nape band and rump whitish; back gray; no white in wings or tail. *Notes.* A prolonged, very clear, whistled song. (Scott.)

Range.—From Guatemala north over the Mexican Plateau to southern Arizona and western New Mexico.

498.

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498. Red-winged Blackbird (*Agelaius phœniceus*). L. ♂, 9.5; W. 4.7; B. .88; depth at base, .5. *Ad.* ♂. Black, in winter more or less tipped with rusty; lesser wing-coverts scarlet; median wing-coverts buff, tips in summer whitish. *Ad.* ♀. Above brownish black, widely margined with buffy and rusty; below whitish heavily streaked with black; throat tinged with orange or yellow; lesser wing-coverts tinged with red. *Yng.* ♂. Similar to Ad. ♂, but heavily margined with rusty above and less so below; lesser wing-coverts duller and narrowly edged with black. *Notes.* Call, *chût, chŭck,* a reedy *cack*; song, a chorus song, a liquid *kong-quĕr-rēē*; alarm note a shrill *chee-e-e-e-e.* The notes of this species are subject to much variation with locality, but I find it impossible to express on paper differences perfectly apparent when heard.

Range.—Eastern North America; breeds from Gulf of Mexico north to New Brunswick and Manitoba; winters from Virginia and southern Illinois southward.

498a. Sonoran Red-wing (*A. p. sonoriensis*). Similar to No. 498, but larger, bill more slender; ♀ paler, streaking below browner. W. ♀, 4.8; B .95; depth at base .5.

Range.—Lower Colorado Valley in California and Arizona, southern Arizona and south over coast plain of Sonora; Cape St. Lucas.

498b. Bahaman Red-wing (*A. p. bryanti*). Similar to No. 498, but bill slightly longer, the female streaked below with brownish instead of black.

Range.—Bahamas and southern Florida.

498c. Florida Red-wing (*A. p. floridanus*). Similar to No. 498, but smaller, the bill longer and more slender; ♂, W. 4.2; B. .9; depth at base .4.

Range.—Florida, except extreme southern portion; west along Gulf coast to Texas.

498d. Thick-billed Red-wing (*A. p. fortis*). Similar to No. 498, but larger, bill shorter and proportionately thicker. W. 5; B. .8; depth at base .5.

Range.—Breeds on Mackenzie River, Athabasca, and other interior districts of British America; during migrations Great Plains, from Rockies to Minnesota, Iowa, western Illinois, northern Kentucky, and southwest to western Texas and Arizona. (Ridgway.)

498e. San Diego Red-wing (*A. p. neutralis*). Similar to No. 498a, but slightly smaller, the ♀ with streaks below wider. W. 4.7; B. .95; depth at base .5.

Range.—Great Basin region from southern British Columbia south to Mexico, western Texas, to southern California and northern Lower California; in winter as far east as Brownsville, Texas. (Ridgway.)

498f. Northwestern Red-wing (*A. p. caurinum*). Similar to No. 498, but slightly larger, bill somewhat longer and more slender, the ♂ with median wing-coverts deeper buff, the ♀ much darker, streaks below wider, darkest ♀ of group. W. 4.8; B. .9; depth at base .45.

Range.—Pacific coast from northern California to British Columbia; south in winter to southern California.

499. Bicolored Blackbird (*Agelaius gubernator californicus*). *Ad.* ♂. Similar to No. 498, but median wing-coverts darker and broadly tipped with black, concealing as a rule, their brownish bases. *Ad.* ♀. Very different from ♀ of No. 498; above and below blackish slightly edged with rusty. *Notes.* Similar in character to those of No. 498, but with easily recognizable differences. (See page 178.)

Range.—Pacific coast; breeds from northern Lower California northward, west of Sierra Nevada and Cascade ranges, to Washington; migratory at north part of range.

500. Tricolored Blackbird (*Agelaius tricolor*). *Ad.* ♂. Similar to No. 498, but glossier, lesser wing-coverts darker, median wing-coverts *white*; in winter black more or less edged with grayish brown; median wing-coverts dingy. *Ad.* ♀. No rusty; above blackish edged with grayish; below black bordered with whitish. *Notes.* "Said to be quite different" from those of No. 498. (Bendire.) (See page 178.)

Range.—Northern Lower California north to southern Oregon; local in valleys of interior.

523. Aleutian Leucosticte (*Leucosticte griseonucha*). Like No. 524a, but much darker, breast chestnut-chocolate; larger, W. 4.4.

Range.—Islands of Bering Sea (resident); in winter, Shumagin Islands, lower portion of Alaska Peninsula and Kadiak Island.

524. Gray-crowned Leucosticte (*Leucosticte tephrocotis*). L. 6.7; W. 4.1. *Ad.* ♂. Reddish brown more or less tipped with grayish; rump, upper tail-coverts, lesser wing-coverts, outer edges of primaries, and lower belly tipped with *pink*; forecrown black; hindhead gray; cheeks *down to blackish throat brown*. *Ad.* ♀. Similar but duller. *Yng.* Nearly uniform brownish; margins of primaries showing some pink. *Notes.* A quick alarm note, *qui, qui*. (Silloway.)

Range.—Western United States: breeds in higher parts of Sierra Nevada of California, from Mt. Shasta south to Mt. Whitney, and on White Mountains (Grinnell); north in Rocky Mountains to British Columbia; in winter east to Manitoba, Colorado, and Nebraska.

524a. Hepburn Leucosticte (*L. t. littoralis*). Similar to No. 524, but cheeks *gray* like hindhead; throat often grayish.

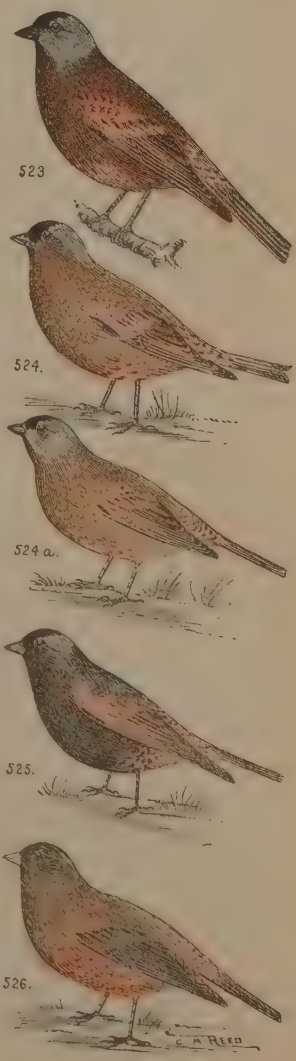
Range.—Higher mountains of Washington and British Columbia; north to Alaska; winters south to Colorado and, on Pacific Coast, as far north as Kadiak Island.

525. Black Leucosticte (*Leucosticte atrata*). Similar to No. 524, but brown replaced by brownish black in *Ad.* ♂, or dusky slate brownish in *Ad.* ♀ and *Yng.*

Range.—Breeds on higher mountains of Idaho and Wyoming; winters south to Colorado and Utah.

526. Brown-capped Leucosticte (*Leucosticte australis*). Resembles No. 524, but little or no gray on hindhead, the black of forehead passing gradually into brown of nape and back.

Range.—Breeds in mountains of Colorado at about 12000 feet altitude, winters at lower altitudes and south to New Mexico.



599. Lazuli Bunting (*Cyanospiza amœna*). L. 5.5. *Ad.* ♂. Two white wing-bars; breast cinnamon, throat and upperparts light blue; back blacker. In winter more or less tipped with rusty. *Ad.* ♀. Middle wing-coverts *tipped* with *whitish*; above grayish brown with generally a blue tinge, strongest on rump and lesser wing-coverts; below whitish, breast buff. *Yng.* Like ♀, but browner, no blue. *Notes.* Suggest those of the Indigo Bunting.

Range.—Western United States, east to western Kansas; breeds north to Montana and British Columbia; winters in Mexico.

600. Varied Bunting (*Cyanospiza versicolor*). L. 5.5. *Ad.* ♂. Reddish purple, crown and rump blue, nape red. *Ad.* ♀. Above brownish gray; below whitish washed with buff; a slight tinge of blue on rump, wings and tail. Much like ♀ of No. 598, but less brown above and no streaks below. *Yng.* Resemble ♀.

Range.—Mexico; breeding north to southern Texas and southern Arizona; winters south of United States.

600a. Beautiful Bunting (*C. v. pulchra*). Similar to No. 600, but slightly smaller, rump more purple, throat with less red.

Range.—Southern Lower California.

601. Painted Bunting; Nonpareil (*Cyanospiza ciris*). L. 5.4. *Ad.* ♂. Below red, rump duller, back green, head dark blue. *Ad.* ♀. *Bright*, shining olive-green above; greenish yellow below. *Yng.* ♂. Like ♀; second year variously intermediate between Ad. ♂ and ♀. *Notes.* Resemble those of the Indigo Bunting but possess less volume.

Range.—Southern United States; breeds north to North Carolina, southern Illinois, and Kansas, and west to southern Arizona; winters in Mexico and Central America.

654. Black-throated Blue Warbler (*Dendroica cærulescens*). L. 5.2. A white patch or spot at base of primaries. *Ad.* ♂. Throat and sides black; belly white; above dark grayish blue; outer tail-feathers with white. *Ad.* ♀. Grayish olive-green; below yellowish white; a narrow white line over eye; white wing-patch small, sometimes barely showing above coverts; tail with a bluish tinge. *Yng.* ♂. Like Ad. ♂, but greenish above; black areas smaller and tipped with whitish. *Notes.* Call, a sharp, characteristic *chip*; song, usually, *zwee-zwee-zwee* in an ascending scale.

Range.—Eastern North America; breeds from northern Connecticut, mountains of Pennsylvania, southern Michigan, and northern Minnesota, north to Labrador and Hudson Bay region; winters in Central and South America.

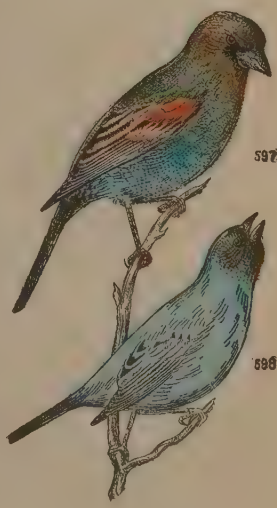
654a. Cairns Warbler (*D. c. cairnsi*). Similar to No. 654, but ♂ darker, the back with more or less black; ♀ darker and duller.

Range.—Breeds in higher portions of southern Alleghenies; winters south of United States.

658. Cerulean Warbler (*Dendroica cerulea*). L. 5. *Ad.* ♂. A gray-blue breast band; above bright gray-blue streaked with black; wing-bars and spots in tail white. *Ad.* ♀ and *Yng.* ♂. Above blue-gray washed with greenish, below yellowish white; a whitish line over eye. *Notes.* Call, a warbler *lisp* and *tchip* of the Myrtle Warbler; song resembling that of Parula Warbler. (Brewster.) (See page 180.)

Range.—Mississippi Valley, breeding north to Minnesota and east to Cayuga County, New York, Maryland, and West Virginia; generally rare east of Alleghanies; migrates south through Texas and winters in Central and South America.

597. Blue Grosbeak (*Guiraca cærulea*). L. 7; W. 3.4. *Ad.* ♂. Deep, dark blue, back blacker and sometimes with brownish edgings; lesser wing-coverts broadly, greater wing-coverts narrowly tipped with chestnut. In winter more or less tipped with brownish above and below. *Ad.* ♀. Above grayish brown, deepest on head; below grayish white washed with buffy; wing-bars buff. Some specimens show more or less blue, particularly about head. *Yng.* ♂. Like ♀, but browner. *Notes.* Call, a strong, harsh, *ptchick*; song, a beautiful but feeble warble, somewhat like that of Purple Finch and with a slight resemblance to that of Rose-breasted Grosbeak. (Ridgw.)



Range.—Eastern United States; breeds from the Gulf north to Maryland and southern Illinois; winters south of United States into Mexico and Central America; casually north as far as Maine and Quebec.

597a. Western Blue Grosbeak (*G. c. lazula*). Similar to No. 597, but larger, W. 3.6; male brighter blue; back blacker; tips of wing-coverts paler, those of greater coverts usually decidedly paler than those of lesser coverts and averaging wider than those of No. 597. Female averaging paler, less brown..

Range.—Western United States; breeds from Mexico north to Kansas, southern Nebraska, Colorado, and northern California; winters in Mexico and Central America.

598. Indigo Bunting (*Cyanospiza cyanea*). L. 5.4. No white wing-bars. *Ad.* ♂. Deep blue, darkest on head. In winter brown, paler below, more or less mixed with blue. *Ad.* ♀. Above brown; below whitish washed with brown with a *suggestion of streaks*; lesser wing-coverts and margins of tail-feathers usually tinged with blue. *Yng.* Similar to ♀ but below more streaked; browner, and generally without blue tinge. *Notes.* Call, a sharp *pit*; song, a tinkling, unsympathetic, rapid warble, *July, July, summer-summer's here; morning, noontide, evening, list to me.*

Range.—Eastern United States, west to the Plains, casually to Colorado; breeds north to Nova Scotia and Manitoba; winters in Central America.

766. Bluebird (*Sialia sialis*). L. 7. *Ad.* ♂. Above, including wings and tail, bright blue; throat and breast rusty brown, belly whitish. *Ad.* ♀. Above grayer, below paler. In winter specimens of both sexes have upperparts tipped with rusty. *Notes.* Call, *tur-wee, tur-wee*; song, a rich and sweet but short warble.

Range.—Eastern United States; breeds from the Gulf States to Nova Scotia and Manitoba; winters from southern New England and southern Illinois southward

766a. Azure Bluebird (*S. s. azurea*). Similar to No. 766, but breast paler, upperparts less deep, more cerulean.

Range.—Mountains of eastern Mexico north to southern Arizona.

767. Western Bluebird (*Sialia mexicana occidentalis*). L. 7. *Ad.* ♂. Above bright blue, foreback with more or less rust-brown, but rarely wholly chestnut; *throat blue*, breast rust-brown, belly bluish gray. *Ad.* ♀. Above grayish blue; rust on foreback faintly indicated; throat bluish gray, breast paler than in ♂. *Notes.* Call, suggests that of No. 766, but is louder and wilder.

Range.—Pacific coast region from northern Lower California north to British Columbia, east to western Nevada and casually, during migrations, to New Mexico. (Ridgway.)

767a. Chestnut-backed Bluebird (*S. m. bairdi*). Similar to No. 767, but foreback *wholly* rust-brown.

Range.—Rocky Mountain region from Wyoming south into Mexico.

767b. San Pedro Bluebird (*S. m. anabelæ*). Rust-brown of back and breast greatly reduced in extent, usually wholly wanting or barely indicated on back, and divided into two patches on breast by backward extension of blue of throat; W. 4.2. (Ridgw.)

Range.—San Pedro Martir Mountains, Lower California.

768. Mountain Bluebird (*Sialia arctica*). L. 7.5. *Ad.* ♂. Above beautiful cerulean blue, throat and breast paler, belly whitish. Winter specimens are more or less tipped with brownish. *Ad.* ♀. Above brownish gray, rump blue, throat and breast grayish buff; belly whitish. *Notes.* Call, suggests that of No. 766, but in fall is merely a feeble chirp. (Ridgw.)

Range.—Western United States, except Pacific coast; breeds from the Sierra Nevada east to the Plains and from New Mexico north to the Great Slave Lake region; winters from the Mexico boundary, states south into Mexico.

477. Blue Jay (*Cyanocitta cristata*). L. 11.7. *Ads.* Above gray-blue, breast and sides washed with *grayish*; white tip to outer tail-feather rarely less than one inch long. *Notes.* Varied; commonly a loud harsh *jay jay*; often whistling calls and imitations of the notes of other birds, particularly of common Hawks.

Range.—Eastern North America, west to the Plains; breeds from Georgia and northern Texas north to Labrador and Hudson Bay region; resident, except at northern part of range.

477a. Florida Blue Jay (*C. c. florincola*). Similar to No. 477, but smaller, L. 10; blue above with a purplish tinge; greater wing-coverts more narrowly barred with black and tipped with white.

Range.—Florida and Gulf Coast to southeastern Texas.

482. Arizona Jay (*Aphelocoma sieberii arizonæ*). L. 13; W. 6.3; T. 5.8. *Ads* Above grayish blue, head, wings and tail brighter than back; below unstreaked, gray breast tinged with bluish; belly whiter. *Notes.* Noisy, harsh, and far-reaching. (Bendire.)

Range.—Northern Mexico, north to southern New Mexico and Arizona.

482a. Couch Jay (*A. s. couchi*). Similar to No. 482, but smaller; W. 5.8; T. 5.3; bluer above, throat whiter.

Range.—"Eastern Mexico, extending to western Texas in the Chisos Mountains." (Bailey.)

492. Pinon Jay (*Cyanocephalus cyanocephalus*). L. 11; T. 4.8. *Ads.* Above nearly uniform grayish blue, head slightly darker; below slightly paler, throat streaked with white. *Notes.* Variable, some as harsh as those of No. 491, others like gabble of Magpie; others like Jays' common call a shrill, querulous, *peeh, peeh*; when on ground maintain a constant chatter. (Bendire.)

Range.—Western North America, from New Mexico and Lower California north to southern British Columbia; east to Rockies, west to Sierra Nevada and Cascade Ranges.

479. Florida Jay (*Aphelocoma cyanea*). L. 11.5. *Ads.* Foreback clay-color or pale brownish gray; head, nape, wings, tail, sides of throat and faint breast-streaks blue; a grayish line over eye; throat gray; belly dingier; forehead usually hoary. *Notes.* Harsh and unmusical calls.

Range.—Florida; confined mostly to coast of the middle portions of the peninsula.

480. Woodhouse Jay (*Aphelocoma woodhousei*). L. 12; W. 5. *Ads.* Back *grayish or brownish blue*, usually not sharply defined from nape; crown, nape, wings and tail blue; throat *gray*; belly dingier; breast streaked with blue; *under tail-coverts blue*; a *narrow white* line over eye. Resembles No. 479, but is larger, back bluer, forehead not hoary; line over eye sharper.

Range.—Western United States (chiefly Great Basin region), from northern Mexico north to southeastern Oregon and southern Wyoming; east to western Texas and Colorado; west to California, east of the Sierras.

480.1. Blue-eared Jay (*Aphelocoma cyanotis*). Resembling No. 480, but larger; W. 5. 5; under tail-coverts *white*; back slaty-gray tinged with blue; white line over eye less evident.

Range.—"Mexican tableland north casually to Sutton County, Texas." (Bailey.)

480.2. Texan Jay (*Aphelocoma texana*). Similar to No. 480.1, but white line over eye more distinct, below paler and browner gray, lower throat and chest with obsolete grayish streaks instead of blue streaks. Differs from No. 480 in having pure white under tail coverts and in other respects. (Ridgw.)

Range.—"Southeastern Texas, from Concho and Kerr Counties west to the Davis Mountains." (Bailey.)

481. California Jay (*Aphelocoma californica*). Similar to No. 480. but back *brown*; usually sharply defined from nape; blue areas brighter, throat and belly whiter; breast less streaked with blue. *Notes.* Varied, usual call a harsh, metallic squawking.

Range.—Pacific coast from northern Lower California, north to southern Washington, east, in California, to the Sierra Nevada.

481a. Xantus Jay (*A. c. hypoleuca*). Similar to No. 481, but blue areas somewhat lighter, underparts decidedly whiter.

Range.—Lower California, north to Lat. 28°.

481b. Belding Jay (*A. c. obscura*). Similar to No. 481, but darker and with smaller feet; W. 4.7. (Anthony.)

Range.—San Pedro Martir Mountains, Lower California.

481.1. Santa Cruz Jay (*Aphelocoma insularis*). Similar to No. 481, but larger; W. 5.6; blue areas much deeper, back much darker, grayish sooty tinged with blue.

Range.—Santa Cruz Island, California.

478. Steller Jay (*Cyanocitta stelleri*). L. 13. *Ads.* Crest, back and upper breast sooty brown; rump and belly dark, (Antwerp) blue; forehead more or less streaked with blue. *Notes.* Varied, usual call a loud, harsh squawking; the bird is a mimic and also a whistler.

Range.—Pacific coast from Monterey, California, north to near Cook Inlet, Alaska, including Vancouver Island.

478a. Blue-fronted Jay (*C. s. frontalis*). Similar to No. 478, but back paler, grayer, rump and belly turquoise, forehead with more blue which sometimes extends to the crest.

Range.—"Southern coast ranges and Sierra Nevada of California and western Nevada, from Fort Crook south to northern Lower California." (A. O. U.)

478.

478b. Long-crested Jay (*C. s. diademata*). Similar to No. 478, but paler, grayer above, blue turquoise, as in No. 478a; crest longer, the forehead with pale, *bluish white* streaks; a white spot over the eye.

Range.—"Southern Rocky Mountains; north to southern Wyoming; west to Uintah Mountains, in eastern Utah, and the higher ranges of northwestern Arizona; south to New Mexico." (Bendire.)

478c. Black-headed Jay (*C. s. annectens*). Between No. 478 and No. 478b. Forehead streaks, and spot over eye much as in latter; color of body dark as in former.

Range.—Northern Rocky Mountain region from northern Utah and southern Wyoming north to Alberta and British Columbia.

478d. Queen Charlotte Jay (*C. s. carlottæ*). Similar to No. 478, but darker, sooty slate above, blue deeper.

Range.—Queen Charlotte Islands, British Columbia.

483.

483. Green Jay (*Xanthoura luxuosa glaucescens*). L. 11. *Ads.* Crown and patches at side of throat blue; back, wings, and central tail-feathers green; outer tail-feathers yellow; throat black, breast and belly greenish yellow. *Notes.* Noisy and harsh often suggesting certain of the Blue Jay's calls.

Range.—Lower Rio Grande Valley, Texas, and south into northeastern Mexico.

503. Audubon Oriole (*Icterus audubonii*). L. 9.5. *Ads.* Head, breast, wings and tail black; belly yellow; back greenish yellow. *Yng.* Greenish yellow below; olive-green above. *Notes.* See No. 507.

Range.—Mexico north to the Lower Rio Grande; casually as far as San Antonio, Texas; resident.

504. Scott Oriole (*Icterus parisorum*). L. 8; B. .95; *Ad.* ♂. Lesser wing-coverts, base of tail, rump and belly yellow; rest of plumage black. *Ad.* ♀. Yellowish below, olive-green above, two white wing-bars. *Yng.* ♂. Like female, but throat black. *Notes.* See No. 507.

Range.—Mexican tableland, migrating north to western Texas, northern New Mexico, southern Nevada and southeastern California; winters in Mexico.

505. Hooded Oriole (*Icterus cucullatus sennetti*). L. 8; B. .75. *Ad.* ♂. *Orange*; forehead, face, throat, foreback, wings and tail black; lesser wing-coverts and tips to greater ones white. *Ad.* ♀. Yellowish below, brownish olive-green above, two white wing-bars. *Yng.* ♂. Like ♀, but throat black. *Notes.* See No. 507.

Range.—Mexico; migrating north to the Lower Rio Grande; winters in Mexico.

505a. Arizona Hooded Oriole (*I. c. nelsoni*). Similar to No. 505, but head, rump, etc. yellow instead of orange.

Range.—Northwestern Mexico and Lower California, migrating north to southwestern New Mexico, Arizona, and southern California, west of Sierra Nevada; winters in Mexico.

507. Baltimore Oriole (*Icterus galbula*). L. 7.5. *Ad.* ♂. Throat, whole head, foreback, wings and middle tail-feathers black; breast, belly, rump, lesser wing-coverts and ends of outer tail-feathers orange; wing-coverts and tertials margined with white. *Ad.* ♀. Head and foreback olive-yellow spotted with black; rump and tail brownish yellow; below dull yellow, throat generally blackish. *Notes.* The notes of all the orange and black Orioles known to me are mellow, musical, querulous whistles generally given in detached fragments, all much alike in character but distinguishable when one becomes familiar with them.

Range.—Eastern North America west to the Rocky Mountains; breeds from Florida and eastern Texas north to New Brunswick and the Saskatchewan; winters in Central and South America.

508. Bullock Oriole (*Icterus bullocki*). L. 7.5. *Ad.* ♂. *Cheeks*, most of underparts, forehead and line over eye orange; rump and outer tail-feathers yellower; center of throat, crown, foreback and middle tail-feathers black; a large white wing-patch. *Ad.* ♀. Above olive grayish brown; below yellowish, belly whiter; tail olive-yellow; wings blackish, median coverts tipped, greater coverts externally margined with white; chin sometimes blackish. *Yng.* ♂. Like ♀, but center of throat and lores black. *Notes.* See No. 507.

Range.—Western North America, from Mexico north to Assiniboia and British Columbia; east to western Texas; west to the Pacific; winters in Mexico.

637. Prothonotary Warbler (*Protonotaria citrea*). L. 5.5. Tail-feathers with large white areas. *Ad.* ♂. Whole head and underparts orange-yellow; back greenish yellow; rump gray. *Ad.* ♀. Crown greenish like back; yellow paler; belly whitish; less white in tail. *Notes.* Call, a sharp, metallic *chink*; song, a "high pitched, penetrating and startling" "*peet, tsweet, tsweet, tsweet, tsweet, tsweet.*" (Jones.)

Range.—Eastern North America; breeds from the Gulf States north to Virginia, Ohio, and southern Minnesota; winters in the tropics.

651. Olive Warbler (*Dendroica olivacea*). L. 5.2. *Ad.* ♂. Head and breast orange brown, a black band through the eye; back olive-gray; belly grayish; wing-bars white; outer tail-feathers largely white. *Ad.* ♀. Above olive-gray, head yellower; eye-band dusky; breast yellow; belly white. *Notes.* Song, a liquid *quirt quirt, quirt,* in a descending scale. (Price.)

Range.—Highlands of Guatemala and Mexico north to mountains of Arizona and New Mexico.

662. Blackburnian Warbler (*Dendroica blackburniæ*). L. 5.2. *Ad.* ♂. Throat, line over eye, center of crown, and sides of neck bright orange; back black with a few whitish streaks; wing-bars broadly white; tail-spots white. *Ad.* ♀. Yellow areas paler; above grayish streaked with blackish. *Yng. and Ad. in Winter.* Similar to Ad. ♀, but throat paler, back browner; wing with two distinct bars. *Notes.* Song, *wee-see-wee-see, tsee-tsee, tsee, tsee-tsee, tsee, tsee,* in an ascending scale, the last shrill and fine.

Range.—Eastern North America; breeds from northern New England (and in Berkshire and Worcester counties, Massachusetts), and northern Minnesota, north to Labrador and Hudson Bay region, (and south in Alleghanies to South Carolina); winters in tropics.

687. Redstart (*Setophaga ruticilla*). L. 5.4. *Ad.* ♂. Black; sides of breast, band in wings and in tail rich salmon. *Ad.* ♀. Sides of breast, band in wings and in tail dull yellow; back olive-brown, crown gray; below whitish. *Yng.* ♂. Intermediate between adults. *Notes.* Song, *ching, ching, chee; ser-wee, swee, swe-e-e.*

Range.—North America; rare on the Pacific coast; breeds from North Carolina, and Kansas north to Labrador and Alaska; winters in the West Indies, Central and South America.

748. Golden-crowned Kinglet (*Regulus satrapa*). L. 4.1. *Ad.* ♂. Crown orange and yellow bordered by black; a whitish line over eye; back grayish olive-green; below soiled whitish. A blackish band in wing bordered basally by yellowish white. *Ad.* ♀. No orange in crown, its whole center yellow. *Notes.* Call, a fine, high *ti-ti*; song, five or six fine, shrill high-pitched notes ending in a short, rapid, rather explosive warble, "*tzee, tzee, tzee, tzee, ti, ti, ter, ti-ti-ti.*"

Range.—North America; breeds from northern United States northward, and southward along the Rockies into Mexico and in the Alleghenies to North Carolina; winters from about its southern breeding limit to the Gulf States and Mexico.

748a. Western Golden-crowned Kinglet (*R. s. olivaceus*). Similar to No. 748, but upperparts brighter olive-green; underparts with a brownish tinge.

Range.—Pacific coast region; breeds from the higher Sierra Nevada of California north to southern Alaska.

666. Golden-cheeked Warbler (*Dendroica chrysoparia*). L. 5. *Ad.* ♂. Throat, crown and *back* black; cheeks and spot in forehead yellow; a narrow black line through eye; wing-bars and tail-patches white. *Ad.* ♀. Above olive green with *black streaks*; cheeks duller than in ♂, eye-streak dusky; throat yellow, breast blackish; belly *white*. *Notes.* Song, *tser, weasy-weasy, twea*, resembling song of No. 667. (Nehrling.)

Range.—Western central and southern Texas and south through eastern Mexico to highlands of Guatemala. (Ridgway.)

667. Black-throated Green Warbler (*Dendroica virens*). L. 5. *Ad.* ♂. Throat and breast black; cheeks greenish yellow; back olive-green; wing-bars and tail patches white. *Ad.* ♀ *and Yng.* ♂. Similar, but throat yellowish; black breast tipped with yellowish; belly *tinged with yellow*; back *without* black *streaks*. *Yng.* ♀. Throat and breast yellowish white, little or no black. *Notes.* Song, a droning *zēē, zēē, zē-ēē, zēē.*

Range.—Eastern North America; breeds from Connecticut and northern Illinois north to Nova Scotia and Hudson Bay, and south in Alleghanies to South Carolina; winters in Central America.

668. Townsend Warbler (*Dendroica townsendi*). L. 5.1. *Ad.* ♂. A black eye-patch bordered by yellow stripes; crown and throat black; back olive-green spotted with black; wing-bars and tail-patches white. *Ad.* ♀. Eye-patch olive; throat yellow, indistinctly blackish; crown and back olive-green, with few black streaks. *Yng.* Similar, but yellower. *Notes.* Song, *de-de, de-de, de,* like that of No. 667. (Merrill.)

Range.—Western North America; breeds from mountains of southern California north to Alaska, east to western Colorado; in migrations to western Texas; winters in Mexico.

669. Hermit Warbler (*Dendroica occidentalis*). L. 5.1. Underparts *without* streaks. *Ad.* ♂. Crown and cheeks yellow; throat black; back gray spotted with black; wing-bars and tail patches white. *Ad.* ♀. Crown less yellow; throat yellowish; back olive-gray, usually without spots. *Yng.* ♀. Similar, but yellower. *Yng.* ♂. Throat dusky; forehead and cheeks yellow; back olive-green with concealed black spots. Much like Yng of No. 667, but forehead yellower, no streaks below. *Notes.* Song, *zeegle-zeegle-zeeglo-zeek.* (Barlow.)

Range.—Western United States; breeds in high mountains from British Columbia to California, and from Pacific Coast district of United States to Rocky Mountains; migrates to Lower California, Mexico, and Guatemala. (Bailey.)

684. Hooded Warbler (*Wilsonia mitrata*). L. 5.7. Outer tail-feather with white patches. *Ad.* ♂. Forehead and cheeks yellow; hindhead extending to breast and throat black; belly yellow; back olive-green. *Ad.* ♀. Throat yellow, hindhead olive-green usually with black. *Notes.* Call, a sharp *cheep;* song, a gracefully whistled *you must come to the woods, or you wont see me.*

Range.—Eastern United States; breeds north to southern Connecticut, central western New York, and southern Michigan; winters in Central America.

531. Lawrence Goldfinch (*Astragalinus lawrencei*). L. 4.7. *Ad.* ♂. Crown, throat and front of cheeks black; body *gray*; breast, rump, wings and, to a less degree, back with yellow; outer tail feathers with large white spots near the end. *Ad.* ♀. Similar, but no black, back browner and without yellow. *Notes.* Suggesting those of the Goldfinch, but weaker.

Range.—California, west of the Sierra: breeds from northern Lower California north to Chico, California; winters to Arizona and New Mexico.

642. Golden-winged Warbler (*Helminthophila chrysoptera*). L. 5. *Ad.* ♂. Crown yellow, wing-bars broadly yellow; above bluish gray; below grayish white; throat-patch and eye-stripe black. *Ad.* ♀. Crown duller; throat-patch and eye-stripe gray. *Notes.* Song, a lazy *zee-zee-zee-zee* all on same note.

Range.—Eastern United States; breeds from northern New Jersey and northern Indiana north to Vermont, southern Ontario, and Michigan, and south along Alleghanies to South Carolina; winters in Central America.

678. Connecticut Warbler (*Geothlypis agilis*). L. 5.5. Eye-ring white; no white in wings or tail. *Ad.* ♂. Crown and cheeks bluish slate; throat and breast paler, the latter with no black; above olive-green; below yellow, sides greenish. *Ad.* ♀ *and Yng.* Throat and breast olive *brown*; belly yellow; back brownish olive-green; crown browner. *Notes.* Call, a sharp *peek*; song, suggesting that of Maryland Yellowthroat and also that of Ovenbird, *free-chapple, free-chapple, free-chapple, whoit.* (Seton.)

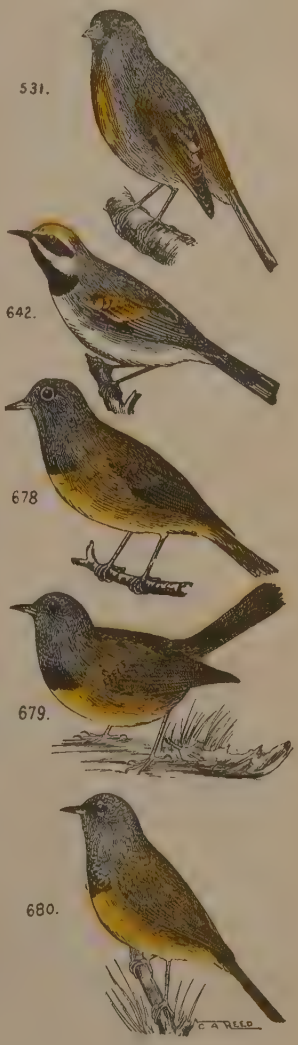
Range.—Eastern North America, north to Maine and Manitoba; known to breed only in Manitoba; winters in northern South America.

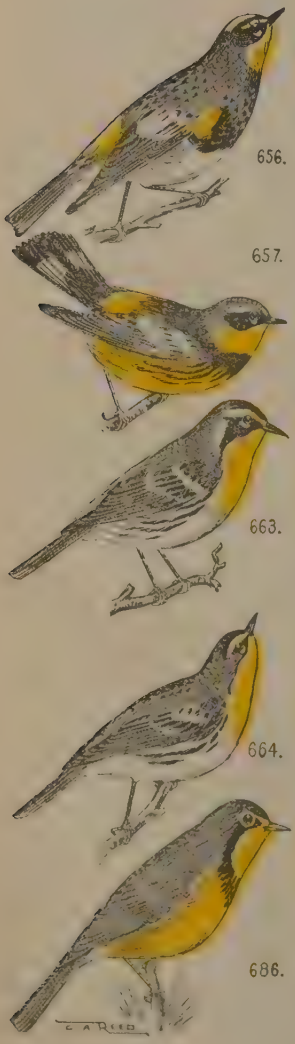
679. Mourning Warbler (*Geothlypis philadelphia*). L. 5.4. No white in wings or tail. *Ad.* ♂. No white eye-ring; crown and cheeks bluish slate; throat blackish; breast black more or less veiled by slaty; belly yellow; back olive-green. *Ad.* ♀. Head slaty; throat and breast *grayish;* an inconspicuous white eye-ring. *Yng.* Similar, but browner above; throat more yellow. *Notes.* Song, clear and whistled, *tee te-o te-o te-o we-se*, the last couplet accented and much higher pitched. (Jones.)

Range.—Eastern North America; breeds from northern New England, northern New York and eastern Nebraska north to Nova Scotia and Manitoba, and south along the Alleghanies to West Virginia; winters in Central and South America.

680. Macgillivray Warbler (*Geothlypis tolmiei*). L. 5.4. *Ads.* Similar to No. 679, but with an incomplete white eye-ring showing above and below eye,

Range.—Western North America from the Rocky Mountains to the Pacific; breeds from western Texas and mountains of southern California north to British Columbia; in migrations ranges east to Nebraska and middle Texas; winters in Mexico and Central America.





656. Audubon Warbler (*Dendroica auduboni*). L. 5.6. Crown, sides of breast, rump, and *throat* usually with yellow. *Ad.* ♂. Throat bright yellow; breast black; back blue-gray streaked with black; wing-bars broadly white; outer tail-feathers with white. *Ad.* ♀. Similar to male, but breast grayish; yellow less bright; less white in wings. ♂, *Winter.* Like same plumage of No. 655, but throat yellowish; more white in tail. ♀, *Winter.* Similar, but less yellow, throat sometimes without yellow, when like No. 655, but white on four or five outer tail-feathers instead of on two or three.

Range.—Western United States; breeding in higher mountains from southern California and New Mexico north to British Columbia; winters south into Mexico.

656a. Black-fronted Warbler (*D. a. nigrifrons*). Similar to No. 656, but *Ad.* ♂ with forehead, sides of crown, and ears black; back black, narrowly margined with bluish gray. *In winter.* Bluish gray, not brownish above. *Ad.* ♀ darker, more heavily streaked with black above. (Ridgw.)

Range.—Mountains of northern Mexico north to southern Arizona.

657. Magnolia Warbler (*Dendroica maculosa*). L. 5.1. Rump yellow; seen from below a white band across middle of tail. *Ad.* ♂. Crown ashy, back black; wing-coverts broadly white; below yellow streaked with black. *Ad.* ♀. Duller; fewer black stripes below; wing-bars separated, narrow. *Yng. and Ad in winter.* Crown and sides of head brownish ashy, back olive-green; below yellow, sides occasionally streaked. *Notes.* Song, a loud, clear whistle, *chee-to, chee-to, chee-tee-ee,* uttered rapidly and with a falling inflection. (Langille.)

Range. Eastern North America, west in migrations, to the Rockies; breeds from northern New England, northern Michigan (and south along the Alleghanies to Pennsylvania), north to Quebec and Hudson Bay region; winters in Central America.

663. Yellow-throated Warbler (*Dendroica dominica*). L. 5.2. *Ads.* Throat and *line from bill to eye* yellow; cheeks and forehead black; back bluish gray; two broad white wing-bars; tail-patches white. *Notes.* Song, loud, ringing and ventriloquial; suggesting that of Indigo Bunting but shorter.

Range.—Southeastern United States; breeds from Florida north to Virginia and winters from Florida south into West Indies.

663a. Sycamore Warbler (*D. d. albilora*). Similar to No. 663, but bill smaller, line from eye to bill white or with but traces of yellow.

Range.—Mississippi Valley; breeds from Texas north to Kansas, southern Indiana, southern Illinois, and West Virginia; winters in Mexico and Central America.

664. Grace Warbler (*Dendroica graciæ*). L. 5. *Ad.* ♂. Throat and line over eye yellow; cheeks gray; above gray, crown and back with black streaks; wing-bars and tail-patches white. *Ad.* ♀. Similar, but duller, back sometimes brownish.

Range.—Northwestern Mexico, north to New Mexico, southwestern Colorado, and Arizona.

686. Canadian Warbler (*Wilsonia canadensis*). L. 5.6. No white in wings or tail. *Ad.* ♂. A necklace of black spots on breast; back gray; belly yellow; forehead black. *Ad.* ♀ *and Yng.* ♂. Black areas smaller. *Yng.* ♀. Slightly yellowish above; necklace slightly indicated by dusky spots. *Notes.* Song, *tu-tu, tswe, tu, tu,* longer or shorter and suggesting in style of utterance both the Yellow Warbler and Goldfinch. (Jones.) (See page 190.)

Range.—Eastern North America; breeds from Massachusetts, central New York, and northern Michigan north to Labrador and Manitoba, and south along the Alleghanies to North Carolina; winters in Central and South America.

640. Bachman Warbler (*Helminthophila bachmanii*). L. 4.2. Outer tail-feathers usually with a white patch more or less distinct. *Ad.* ♂. Breast-patch and crown-band black; forehead, chin and belly yellow; back olive-green, hindhead grayish. *Ad.* ♀. Above grayish olive-green, head grayer; below dingy grayish with a yellow tinge. *Notes.* Song, when migrating, resembles that of Parula Warbler, (Brewster); when breeding, that of Worm-eating Warbler, Junco or Chippy. (Widmann).

Range.—Southeastern United States, west to Louisiana, north to Virginia and southern Indiana; rare on Atlantic coast; known to breed only in Missouri; winters south of United States.

641. Blue-winged Warbler (*Helminthophila pinus*). L. 4.8. *Ad.* ♂. Crown and underparts yellow; back olive-green; a black stripe through eye; two whitish wing-bars; outer tail-feathers with white patches. *Ad.* ♀. Similar, less yellow on head, duller below. *Notes.* Song, a wheezy, *swee-chee,* the first inhaled, the second exhaled; also, later, *wēē, chi-chi-chi-chi, chūr, chēē-chūr.*

Range.—Eastern United States; breeds north to southern Connecticut and Minnesota, occasionally wanders to Massachusetts; winters south of United States.

670. Kirtland Warbler (*Dendroica kirtlandi*). L. 5.7. *Ad.* ♂. Above bluish gray streaked with black; below pale yellow, sides streaked with black; wing-bars grayish; tail-patches white. *Ad.* ♀. Similar, but browner. *Notes.* Song, said to resemble that of Maryland Yellow-throat and also that of Yellow-throated Warbler.

Range.—Eastern United States; has been found from April to October in United States as follows: in Florida, South Carolina, Virginia, Missouri, Illinois, Indiana, Ohio, Minnesota, Michigan, and Ontario, in all some twenty odd specimens; found breeding in summer of 1903 in Oscoda County, Michigan; winters in Bahamas where some fifty specimens have been taken.

671. Pine Warbler (*Dendroica vigorsii*). L. 5.5. *Ad.* ♂. Throat and breast greenish yellow; above bright yellowish green; wing-bars and tail-patches white. *Ad.* ♀. Similar, but breast duller, back browner. *Yng.* ♂. Similar to Ad. ♂, but browner. *Yng.* ♀. Below buffy white, breast slightly or not all yellowish; back olive-brown. *Notes.* Song, suggesting a Chipping Sparrow's but more musical.

Range.—Eastern North America; breeds from Gulf States north to New Brunswick, Minnesota, and Manitoba; winters from Virginia and southern Illinois to Gulf States.

696. Siberian Yellow Wagtail (*Budytes flavus leucostriatus*). L. 6.5. *Ad.* ♂. Crown bluish slate, a white line over eye; back olive-green; below yellow; wing-bars yellowish; outer tail-feathers largely white. *Ad.* ♀. Similar, but duller, head and wing-bars browner. *Notes.* Call, a sharp, *plé-plé-ple*; song, a low, clear, medley of jingling notes uttered on the wing. (Nelson.) (See page 191.)

Range.—China, Eastern Siberia, and Bering Sea portion of eastern Alaska.

529. American Goldfinch (*Astragalinus tristis*). L. 5.1; W. 2.8. *Ad.* ♂. Yellow, cap, wings and tail black; wing-coverts, secondaries and inner margins of tail-feathers tipped with white. *Ad.* ♀, Above grayish olive-brown; below buffy whitish; throat yellowish; wings and tail duller than in male; white tips to tail not distinct. *Yng.* ♂ *and Ad.* ♂ *in winter.* Similar to ♀ but wings and tail black; white markings grayer than in summer. *Notes.* Calls, when perching, *hear me, hear me, dearie,* soft and sweet, when flying, *per-chic-o-ree; per-chic-o-ree*; song, sweet, rapid, varied and canary-like.

Range.—Eastern North America west to the Rockies; breeds from Virginia and Missouri north to Labrador and Manitoba; winters from northern United States to the Gulf States.

529a. Western Goldfinch (*A. t. pallidus*). Similar to No. 529, but larger, W. 3.05. *Ad.* ♂, *in summer*, similar in color to No. 529. ♀ and ♂, *in winter*. Much paler, the white areas greater in extent.

Range.—Rocky Mountain region from northern Mexico north to British Columbia.

529b. California Goldfinch (*A. t. salicamans*). Similar to No. 529, but wings and tail shorter and color darker. *Ad.* ♂ *in summer.* With back always (?) tinged with pale olive-green; in winter darker than No. 529, but with white areas as large as in 529a. (Ridgw.)

Range.—California, west of the Sierra, south to Lower California, north to Washington.

530. Arkansas Goldfinch (*Astragalinus psaltria*). L. 4.1. *Ad.* ♂. Cap, wings, and tail black, most of primaries and tail white basally; back and cheeks olive-green, often marked with black; below yellow *Ad.* ♀. No black cap; above olive-green; below dull yellowish; wings and tail brownish black, former with white much reduced, latter with little or no white. *Yng.* Resemble female. *Notes.* Call, *se-e-e-ep;* song, sweet, varied and musical.

Range.—Western United States, from the Plains to the Pacific; breeds from northern Lower California and western Texas, north to Colorado, southern Idaho, and Oregon; winters from the southern part of its breeding range southward.

530b. Mexican Goldfinch (*A. p. mexicanus*). Resembles No. 530, but *cheeks and entire upperparts black*; ♀ as in No. 530.

Range.—Mexico, north to southern Texas.

685. Wilson Warbler (*Wilsonia pusilla*). L. 5. No white in plumage. *Ad.* ♂. Crown shining black; forehead, cheeks and underparts yellow; back olive-green. *Ad.* ♀. Similar, but crown-patch often smaller, sometimes absent. *Yng.* ♀. Crown-patch absent. *Notes.* Song, *'tsh-'tsh-'tsh-'tshea.* (Nuttall) Suggests that of Redstart or Yellow Warbler. (Minot.)

Range.—Eastern North America; breeds from Nova Scotia, northeastern Maine, and Ontario north to Labrador and Hudson Bay region; winters in Mexico and Central America; "occasional during migration in Colorado . . . and other parts of the Rocky Mountain district" (Ridgw.) (See page 192.)

685a. Pileolated Warbler (*W. p. pileolata*). Similar to No. 685, but yellow deeper, olive brighter.

Range.—Western North America; breeding throughout the Rocky Mountain district from western Texas in higher mountains, northward to Alaska, coast and interior; westward to eastern Oregon and Queen Charlotte Islands; in migrations over all of western North America and east to Minnesota; in winter south to Central America. (Ridgw.) (See page 192.)

685b. Golden Pileolated Warbler (*W. p. chryseola*). Similar to No. 685a, but still brighter, richer yellow; forehead nearly orange; back brighter green.

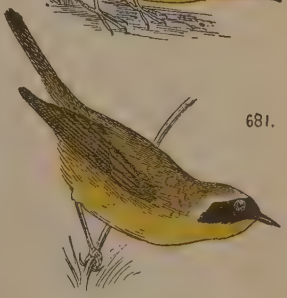
Range.—Pacific coast; breeds from southern California north to British Columbia; in migration east to eastern Oregon; south to Chihuahua and Lower California. (Ridgw.) (See page 192.)

677. Kentucky Warbler (*Geothlypis formosa*). L. 5.6. No white in plumage. *Ad.* ♂. Cheeks and crown black, the latter tipped with ashy; back olive-green; a yellow line over eye; below bright yellow. *Ad.* ♀. Similar, but less black in crown and on cheeks; yellow duller. *Notes.* Song, a *loud musical* whistle, *turdle, turdle, turdle*, suggesting notes of Carolina Wren.

677.

Range.—Eastern United States; breeds from Gulf States north to lower Hudson Valley, southern Michigan and eastern Nebraska; winters in Central and northern South America.

681. Maryland Yellow-throat (*Geothlypis trichas*). L. 5.2; W. 2.1. *Ad.* ♂. Forehead and cheeks black, bordered behind by ashy; back olive-green; throat and breast yellow, belly whitish washed with yellow, sides brownish. *Ad.* ♀. No black mask; above dull olive-green, forehead brownish; throat and breast more or less washed with yellow, belly whitish, sides brownish. *Yng.* ♂. Similar to Ad. ♀, but browner; breast yellow; cheeks and forehead with more or less half-concealed black. *Notes.* Calls, *pit, chit*, or *chack*; song, variable, often *wichity, wichity, wichity.*



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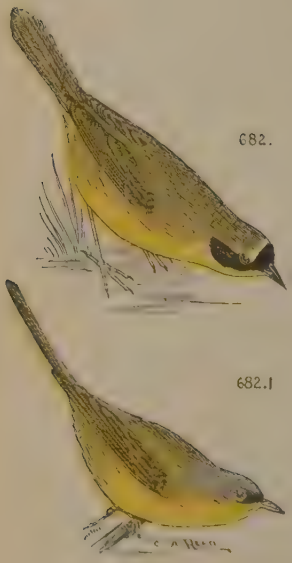
Range.—"Atlantic Coast district of United States; breeding in Virginia, District of Columbia, Maryland and southern Pennsylvania (Carlisle), probably also in Delaware and southern New Jersey and in upland portions of Carolinas and Georgia; . . . . south in winter to Bahamas . . . ." (Ridgw.)

681a. Western Yellow-throat (*G. t. occidentalis*). Similar to No. 681d, but yellow below richer, border of mask whiter and broader.

Range.—Arid western United States; east to western portions of Great Plains, north to Montana and eastern Washington (?); west to southern California; breeding southward to northern Chihuahua and northern Lower California; southward in winter to western Mexico and Cape St. Lucas. (Ridgw.)



682.

682.1

681b. Florida Yellow-throat (*G. t. ignota*). Similar to No. 681d, but yellow below more extended and deeper, sides browner; black mask wider; upperparts, especially hindhead, browner.

Range.—South Atlantic and Gulf Coast districts of United States from southeastern Virginia to Florida and westward along Gulf lowlands to eastern Texas; winters from at least coast of South Carolina southward; also in Cuba. (Ridgw.)

681c. Pacific Yellow-throat (*G. t. arizela*). Similar to No. 681a, but bill smaller, wings and tail shorter, color duller, whitish margin of mask narrower, yellow usually less orange; W. 2.2; T. 2.1. (Ridgw.)

Range.—"Pacific Coast district, from British Columbia southward; breeding southward to Los Angeles County, California, and eastward to Fort Klamath, Oregon; during migration to Cape St. Lucas." (Ridgw.)

681d. Northern Yellow-throat (*G. t. brachidactyla*). Similar to No. 681, but averaging larger; W. 2.2. *Ad.* ♂. More yellow below, more olive-green above. *Ad.* ♀. Usually with yellow below brighter and more extended. (Ridgw.)

Range.—Northeastern United States from northern New Jersey to Newfoundland; west to northern Ontario and eastern Dakota, and south through Mississippi Valley to upland districts of the Gulf States and east central Texas; in winter Bahamas, Mexico, and Central America. (Ridgw.)

681e. Salt Marsh Yellow-throat (*G. t. sinuosa*). Similar to No. 681c, but much smaller and slightly darker, especially on sides and flanks; W. 2.1. (Ridgw.)

Range.—Salt Marshes of San Francisco Bay, California.

682. Belding Yellow-throat (*Geothlypis beldingi*). L. 5.7. *Ad.* ♂. Black mask crossing head diagonally bordered behind by yellow; rest of plumage much as in No. 681a. *Ad.* ♀. Similar to ♀ of No. 681, but larger.

Range.—Lower California.

682.1. Rio Grande Yellow-throat (*Geothlypis poliocephala*). L. 5.7. *Ads.* Lores and forehead black, crown gray, back olive-green; underparts yellow.

Range.—Lower Rio Grande Valley in Texas and southward into Mexico.

645. Nashville Warbler (*Helminthophila rubricapilla*). L. 4.8. No wing-bars; no white in tail. *Ad.* ♂. A chocolate crown-patch; rest of head and cheeks bluish gray; a white eye-ring; back olive-green; below bright yellow. *Ad.* ♀. Similar, but little or no chocolate in crown; yellow duller. *Yng.* Head brownish; underparts washed with brownish, particularly on throat and flanks. *Notes.* Song, *ke-tsee-ke-tsee-ke-tsee-chip-ee. chip-ee-chip-ee-chip*, first half like Black and White Warbler's, second half like Chipping Sparrow's. (Langille.)

Range.—Eastern North America; breeds from southern New York, Connecticut, and northern Illinois, north to Labrador and Hudson Bay region; winters south of United States.

645a. Calaveras Warbler (*H. r. gutturalis*). Similar to No. 645, but rump brighter; underparts richer yellow.

Range.—Western United States; breeds on high mountains, from the Sierra Nevada to British Columbia, east to eastern Oregon, northern Idaho; south in migration to Lower California and Mexico; southeast to Texas. (Ridgw.)

648. Parula Warbler (*Compsothlypis americana*). L. 4.5; W. 2.3. *Ad.* ♂. Above grayish blue, a *yellowish patch in the back*; breast yellow washed with chestnut and with an indistinct blackish band; belly, wing-bars, spot near tip of outer tail-feathers white. *Ad.* ♀. Paler, breast without black, sometimes no chestnut. *Notes.* A short, little, guttural, lisping trill.

Range.—Breeds in south Atlantic and Gulf states east of Texas north near the Atlantic coast to the District of Columbia and Mount Carmel, Illinois (Brewst); winters from Gulf States southward.

648a. Northern Parula Warbler (*C. a. usneæ*). Similar to No. 648, but bill averaging slightly smaller, the wing longer, 2.4; black breast-band averaging wider; the chestnut wash stronger.

Range.—Breeds in New England, New York and west along the northern tier of states, north into Maritime Provinces and Canada; winters from Gulf states southward.

649. Sennett Warbler (*Compsothlypis nigrilora*). L. 4.5. Similar to No. 648, but yellow below reaching to belly; breast without black and with only a slight brownish wash; lores and ear-coverts black. *Notes.* Song probably resembles that of No. 648.

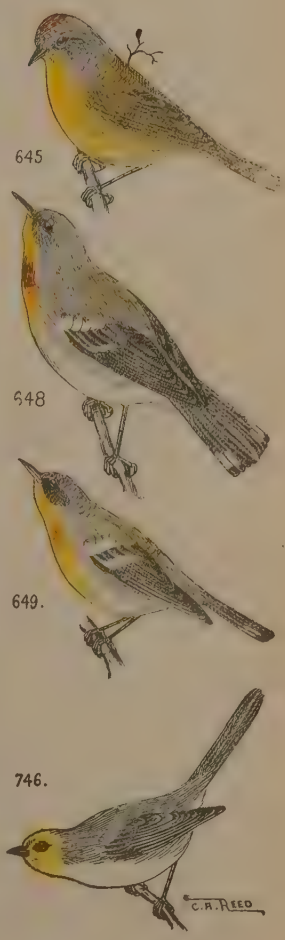
Range.—Lower Rio Grande Valley south into eastern Mexico.

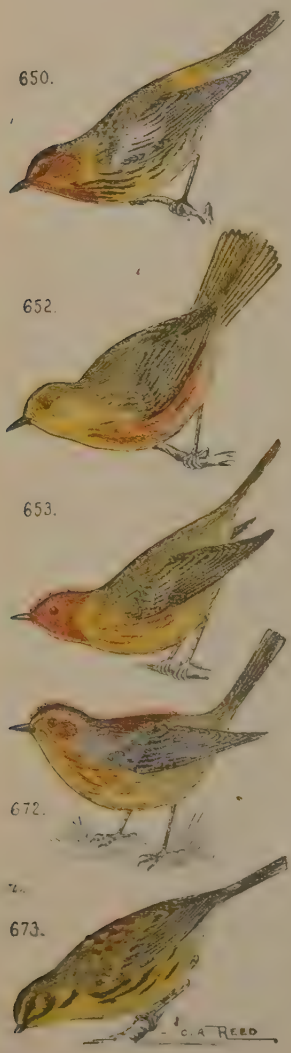
746. Verdin (*Auriparus flaviceps*). L. 4.2; W. 2.2; T. 1.9. *Ad.* ♂. Head and throat yellow; forehead usually with some concealed orange-brown; lesser wing-coverts reddish chestnut; back brownish gray; belly whitish. *Ad.* ♀. Similar, but less yellow.

Range.—Southern border of the United States and northern Mexico from southern Texas to southern California; north to southwestern Utah and southern Nevada.

746a. Baird Verdin (*A. f. lamprocephalus*). Similar to No. 746, but tail shorter; wing somewhat shorter; yellow of head brighter; W. 2.0; T. 1.6. (Oberholser.

Range.—Lower California.





650. Cape May Warbler (*Dendroica tigrina*). L. 5.1. *Ad.* ♂. Ear-coverts and wash on throat chestnut; crown blackish; back olive-green with black spots; below yellow streaked with black; wing-coverts broadly white; outer tail-feathers with white. *Ad.* ♀ *and Yng.* ♂, Duller; crown like back; no chestnut. *Yng.* ♀. Above olive-gray; below whitish faintly tinged with yellow; wing-bars narrow. *Notes.* Song, a wiry "*a-wit, a wit, a-wit, a-wit,* repeated. (Butler.)

Range.—Eastern North America; breeds from northern New England, rarely, and Manitoba north to Hudson Bay region; winters south of United States.

652. Yellow Warbler (*Dendroica æstiva*). L. 5.1. Inner vanes of tail-feathers yellow. *Ad.* ♂. Crown *yellow*, back bright yellowish green: below yellow thickly streaked with reddish brown. *Ad.* ♀ *and Yng.* ♂. Duller above, crown like back; below much paler, few or no streaks. *Yng.* ♀. Similar to last but still duller. *Notes.* Song, a rather loud *wee-chee, chee, chee, cher-wee,* variable in form but recognizable in tone.

Range.—North America, except Alaska, Pacific coast from Vancouver north, and southwestern United States, (western Texas to Arizona. (Ridgw.); breeds throughout most of its range, and winters in Central and South America.

652a. Sonora Yellow Warbler (*D. æ. sonorana*). Similar to No. 652, but ♂ much yellower, less green above, the crown and rump bright yellow; below brighter yellow, reddish brown streaks narrower, fewer sometimes almost wanting. *Ad.* ♀. Similar to Ad. ♀ of No. 652, but grayer above and whiter below.

Range.—Northern Mexico; breeding north to western Texas and southern Arizona; winters south of United States.

652b. Alaskan Yellow Warbler (*D. æ. rubiginosa*). Similar to No. 652, but ♂ darker above, the crown of about the same color as back; ♀ duller.

Range.—Breeds on Pacific coast from Vancouver northward and in Alaska; winters south of United States.

653. Mangrove Warbler (*Dendroica bryanti castaneiceps*). L. 5. Inner vanes of tail-feathers yellow. *Ad.* ♂. Whole head reddish chestnut; back olive-green; below yellow lightly streaked with reddish brown. *Ad.* ♀. Olive-green above; yellow below.

Range.—Cape Region of Lower California and Pacific coast of Central America and Mexico.

672. Palm Warbler (*Dendroica palmarum*). L. 5.2. No white wing-bars; tail patches white. *Ads.* Crown dark chestnut; line over eye, throat, and breast yellow; breast and sides with reddish brown streaks; *belly* much paler, often *grayish* washed with yellow; back olive-brown; rump brighter. *Ad. in Winter and Yng.* No crown-patch; above grayish olive-brown indistinctly streaked; rump yellowish; below grayish white washed with yellow and streaked with brownish; *under tail-coverts bright yellow. Notes.* Call, a recognizable *chip*; song, a short, simple trill.

Range.—Eastern North America; breeds in interior of British America west of Hudson Bay; migrates south through Mississippi Valley and rarely north Atlantic States; winters in Florida and West Indies.

672a. Yellow Palm Warbler (*D. p. hypochrysea*). Similar to No. 672, but underparts *entirely* bright yellow; upperparts yellower. Winter specimens are whiter below but are still conspicuously yellow.

Range. Eastern United States; breeds from Nova Scotia northward, east of Hudson Bay; migrates through Atlantic States and winters in Florida and west to Louisiana.

673. Prairie Warbler (*Dendroica discolor*). L. 4.7. Wing-bars yellowish; tail-patches white. *Ad.* ♂. Above bright olive-green with reddish chestnut spots in the back; below yellow, sides with black streaks. *Ad.* ♀. Similar, but usually duller; chestnut spots smaller, sometimes absent. *Yng.* Similar to ♀ Ad., but browner. *Notes.* Song, a high, thin *zee, zee, zee, zee, zee-e, zee*, the next to last highest. (See page 196.)

Range.—Eastern United States; breeds from Florida to Massachusetts, southern Ontario, and southern Michigan; winters from southern Florida into the West Indies.

Lawrence Warbler (*Helminthophila lawrencei*). Resembles No. 641, but has a black breast patch and a broad black stripe through the eye as in No. 642. It is believed to be a hybrid between the two. Some 15 specimens are known. Its notes are said to resemble those of both No. 642 and No. 641.

Brewster Warbler (*Helminthophila leucobronchialis*). Resembles No. 642 above, but is white usually tinged with yellow below, this type being connected with No. 641, by specimens showing more green above and yellow below. Hybridism and dichromatism are believed to account for these birds of which somewhat over a hundred specimens are known, chiefly from the lower Hudson and Connecticut Valleys. Some songs resemble those of No. 642, others those of 641.

644. Virginia Warbler (*Helminthophila virginiæ*). L. 4.5. No white in wings or tail. *Ad.* ♂. Above gray, crown-patch chocolate; upper tail-coverts yellowish; below whitish, breast-patch and under tail-coverts yellow. *Ad.* ♀. Similar, but less (sometimes no) chocolate in crown and yellow on tail-coverts; duller below. *Yng.* No crown patch; below washed with buff, little or no yellow on breast. *Notes.* Very musical, with a song of remarkable fullness for so small a bird. (Aitken.)

Range.—Rocky Mountain region from Nevada and Colorado (rarely Wyoming) south into Mexico.

655. Myrtle Warbler (*Dendroica coronata*). L. 5.6. Crown, sides of breast and rump yellow. *Ad.* ♂. Above blue-gray streaked with black; throat white, breast largely black; two white wing-bars; outer tail-feathers with white. *Ad.* ♀. Browner above, less black on breast. ♂ *in winter.* Above brown, back indistinctly streaked with black; below whitish, breast and sides streaked with black. *Yng.* ♀. Similar, but less yellow on crown and sides. *Notes.* Call, a characteristic *tchip*; song, a trill.

Range.—Eastern North America, west in migrations, to the Rockies; breeds from northern New England and northern Minnesota north to Labrador and Alaska; winters from Massachusetts and Kansas south into West Indies and Central America.

659. Chestnut-sided Warbler (*Dendroica pensylvanica*). L. 5. *Ad.* ♂. Sides chestnut, crown yellow; back streaked black and greenish yellow; cheek-patch and sides of throat black. *Ad.* ♀. Crown duller; chestnut and black reduced. *Yng.* Above bright yellow-green, back with or without black spots; below grayish white, sides sometimes with traces of chestnut; wing-bars yellowish white. *Notes.* Song, resembles that of Yellow Warbler. (See page 197.)

Range.—Eastern North America; breeds from northern New Jersey and Central Illinois north to Newfoundland and Manitoba (and south in the Alleghenies to South Carolina); winters in Central America.

604. Dickcissel (*Spiza americana*). L. 6.2. *Ad.* ♂. Breast, bend of wing, line over eye and at side of throat yellow; throat-patch black; lesser wing-coverts reddish chestnut; no white in tail. *Ad.* ♀. Less yellow and chestnut, no black on throat. *Notes.* Song, an earnest, but unmusical *dick, dick, che-che-che, che.*

Range.—Middle United States east of the Rockies, west of Alleghenies, breeds from Alabama and Texas to Minnesota; casual in Atlantic States; winters in Central and northern South America.

618. Bohemian Waxwing (*Ampelis garrulus*). L. 8. Crested. *Ads.* Brownish gray; under tail-coverts, fore-crown and sides of throat chestnut-rufous; *throat* and eye-stripe black; wing-quills and primary coverts tipped with white or yellow; secondaries usually with red tips; tail tipped with yellow.

Range.—Northern parts of northern hemisphere; breeds in far north; winters south irregularly to northern United States, casually to Pennsylvania, Illinois, Kansas, and northern California

619. Cedar Waxwing (*Ampelis cedrorum*). L. 7. Crested. *Ads.* Grayish brown; belly *yellowish*; under tail-coverts white; no white tips on wing-quills; secondaries with red tips; tail tipped with yellow and rarely with red tips. *Notes.* A fine, lisping note; a string of notes usually uttered when taking flight.

Range.—North America; breeds from Virginia and the highlands of South Carolina, Kansas, and Oregon, north to Labrador and southern Alaska (?); winters from northern United States to Central America.

628. Yellow-throated Vireo (*Vireo flavifrons*). L. 5.5. *Ads.* Throat and breast *bright* yellow, belly white; above *bright* olive-green, rump gray; two white wing-bars. *Notes.* Call, a scolding *cack*; song like Red-eye's but richer, more deliberate, *see me; I'm here; where are you?* in varying forms; also a mellow trill.

Range.—Eastern United States; breeds from Florida and Texas to Newfoundland and Manitoba; winters in tropics.

683. Yellow-breasted Chat (*Icteria virens*). L. 7.5; T. 3.07. *Ads.* Throat and breast bright yellow; lower belly white; above olive-green; line over eye and at side of throat white. *Notes.* Call, a gasping, mewing *kee-yuck* and *chut, chut*; song, of whistles, caws and chucks, sometimes uttered in flight.

Range.—Eastern United States; breeds from northeastern Mexico (but not in Florida?) north to South Dakota, southern Minnesota, and Massachusetts (locally); winters in Mexico and Central America.

683a. Long-tailed Chat (*I. v. longicauda*). Similar to No. 683, but grayer above; tail slightly longer.

Range.—Western United States, east to Plains; breeds from Mexico north to North Dakota and British Columbia; winters in Mexico.

497. Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*). L. 10. *Ad.* ♂. Black; head and breast orange yellow; outer wing-coverts white, black tipped. *Ad.* ♀. Brownish, line over eye, throat and breast dull yellow, lower breast streaked with white; ear-coverts rusty. *Notes.* Call, a hoarse *chuck*; song, a variety of hoarse grunting, guttural whistles; usually uttered with apparent great effort and bodily contortion. The young utter a rolling, whistling call.

Range.—Western North America, east to Kansas, northern Illinois, and northwestern Indiana; west to the Pacific coast ranges; breeds locally from Texas (?), New Mexico, Arizona, and Southern California north to the Hudson Bay region, and southern British Columbia; winters from southwestern Louisiana, and California southward.

501. Meadowlark (*Sturnella magna*). L. 10.7; W. 4.8. *Ads.* Above black varied with chestnut and buff; below yellow, a black breast-crescent; bars on middle tail-feathers *fused* along shaft, yellow of throat *not* spreading on to its sides. *Notes.* Calls, a nasal note and a rolling twitter; song, a high fife like whistle of rarely more than eight or ten notes; without gurgles or grace notes.

Range.—Eastern North America west to about Long. 100°, north to New Brunswick and Minnesota; winters from Massachusetts and Illinois southward.

501a. Texas Meadowlark (*S. m. hoopesi*). Similar to No. 501b, but yellow not spreading on to sides of the throat. *Notes.* Resemble in character those of No. 501.

Range.—Not well determined; known from Corpus Christi, Texas, west along Mexican boundary to southern Arizona and northern Sonora, Mexico.

501b. Western Meadowlark (*S. m. neglecta*). Similar to No. 501, but bars on middle tail-feathers usually distinct, *not* confluent along shaft; yellow of throat spreading on to its sides; general color paler. *Notes.* Calls, a liquid *chück* and a wooden, rolling *b-r-r-r-r-r-r-r*; song, rich, musical, flute-like with intricate gurgles and grace notes; wholly unlike that of No. 501.

501c. Florida Meadowlark (*S. m. argutula*). Similar to No. 501, but smaller and darker; W. 4.4.

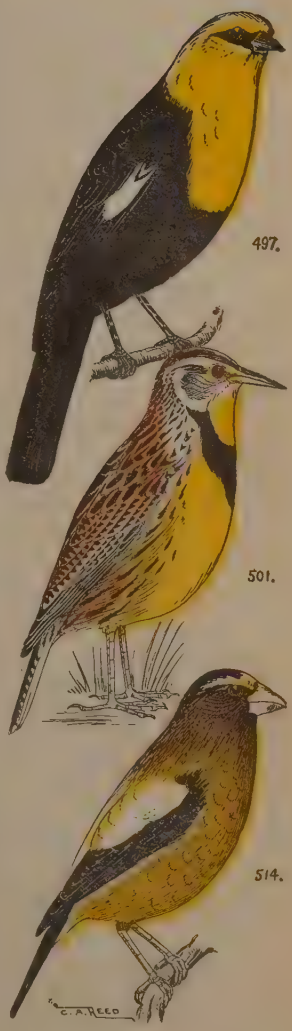
Range.—Florida and Gulf coast to Louisiana.

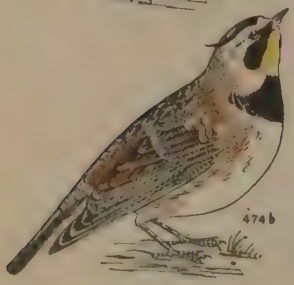
514. Evening Grosbeak (*Hesperiphona vespertina*). L. 8. *Ad.* ♂. Brownish yellow; wings, tail, and crown black; exposed part of tertials white. *Ad.* ♀. Dingy brownish gray, more or less tinged with yellowish; throat and belly whitish; *tail-coverts* and tail-feathers, on inner web, tipped with white. *Notes.* Call, loud; song, short, but melodious, resembling that of Robin or Black-headed Grosbeak. (Cooper.)

Range.—Rocky Mountain region of British America, south, in winter, to the upper Mississippi Valley, rarely to Ohio and casually through New York to New England.

514a. Western Evening Grosbeak (*H. v. montana*). ♂ not distinguishable from ♂ of No. 514; ♀ more buffy, especially below.

Range.—Mountains of western United States from New Mexico north to British Columbia.





EASTERN HORNED LARKS.

474*. Horned Lark (*Otocoris alpestris*). L. 7.7, W. ♂, 4.3; ♀, 4.1. Hind toe-nail much the longest. *Ad. ♂, winter.* Throat and line over eye distinctly *yellow*; black feathers over eye lengthened, forming when raised little tufts; breast-patch, sides of throat, line over eye and forecrown black, more or less tipped, especially on head, with yellowish or brownish; back brownish indistinctly streaked with blackish; nape, wing and tail-coverts pinkish brown; belly white, lower breast dusky, sides pinkish brown; tail mostly black, outer margin of outer feathers white. ♂, *summer.* Yellow areas whiter; black areas more distinct; back pinker. *Ad.* ♀, *winter.* Similar to ♂, but throat and line over eye less yellow; black areas smaller; back more distinctly streaked. ♀, *summer.* More distinctly streaked above. *Notes.* Call, a *tseep*, *tseep*; song, an unmusical, twittering warble sung during soaring flight.

Range.—Eastern North America; breeds in Labrador and region east of Hudson Bay; winters south to South Carolina (chiefly on coast) and in the Mississippi Valley to Illinois.

474b. Prairie Horned Lark (*O. a. praticola*). W. ♂ 4; ♀, 3.8. Line over eye *white*. Similar to No. 474, but smaller, line over eye and forehead generally white, the throat often white and never so yellow as in winter specimens of No. 474.

Range.—Breeds in the Mississippi Valley, south to southern Illinois and Missouri west to eastern Nebraska and Assiniboia; east through northwestern Pennsylvania and central New York to western and northern New England; north to Quebec and Ontario; winters south to South Carolina, Kentucky, and Texas.

474d. Texan Horned Lark (*O. a. giraudi*). W. ♂ 3.9; ♀, 3.6. Similar to No. 474b, but somewhat smaller and paler; throat, forehead and line over eye yellow; *breast, in males, generally tinged with yellow.*

Range.—Coast of Texas from Galveston to the Rio Grande.

NORTHERN HORNED LARKS.

474a. Pallid Horned Lark (*O. a. arcticola*). W. ♂, 4.4; ♀, 4.2. Largest of our Horned Larks; *no yellow* in plumage; throat, forehead and line over eye white; back brown with grayish edgings.

Range.—"In summer, Alaska (chiefly in the interior) with the Valley of the Upper Yukon River; in winter south to Oregon, Utah, and Montana." (Oberholser.)

474k. Hoyt Horned Lark (*O. a. hoyti*). W. ♂, 4.4; ♀, 4.2. Throat tinged with yellow; line over eye white; back darker, pink areas richer than in 474a. An intermediate form between Nos. 474 and 474a

Range.—"In summer, British America from the west shore of Hudson Bay to the Valley of the Mackenzie River, north to the Arctic Coast, south to Lake Athabasca; in winter, southward to Nevada, Utah, Kansas, and Michigan, casually to Ohio and New York (Long Island)." (Oberholser.)

* Fourteen subspecies of this wide-ranging, variable form are now recognized in America, north of Mexico. Many of them are too closely related to be distinguished even by detailed descriptions. When breeding, they may be identified, in life, by a knowledge of the area which each form alone inhabits at this season. But during their migrations, and in winter, when several forms may be associated, it is usually not possible to identify them in the field. The reader is referred to admirable monographs of this group by J. Dwight, Jr. (The Auk, VII, 1890, pp. 138-150), and H. C. Oberholser (Proc. U. S. Nat. Mus., XXIV, 1902, pp. 801-884).

WESTERN HORNED LARKS.

474c. Desert Horned Lark (*O. a. leucolæma*). W. ♂, 4.1; ♀, 3.8. Forehead and line over eye very slightly, often not at all, tinged with yellow; throat yellow; back brown edged with pinkish gray; resembles No. 474b, but is paler and less distinctly streaked above.

Range.—"In summer, western United States from central Dakota, western Kansas and western Nebraska to Idaho and Nevada, north on the eastern side of the Rocky Mountains to Alberta; in winter, south to Texas, Chihuahua, Sonora, and southeastern California." (Oberholser.)

474e. California Horned Lark (*O. a. actia*). W. ♂, 3.9; ♀, 3.6. ♂, *summer*. Back of head and nape, spreading on to sides of breast, pinkish cinnamon; back distinctly streaked with brownish black; throat always, forehead and line over eye usually tinged with yellow. ♂, *winter*. Less distinctly streaked above; cinnamon areas paler and with grayish tips; black areas more or less tipped with yellowish. ♀, *summer*. Crown and back uniformly streaked with blackish margined with pinkish gray. ♀, *winter*. Less distinctly streaked; black areas tipped with whitish.

Range.—Northern Lower California north, west of the Sierra, to Marin and San Joaquin Counties, California.

474f. Ruddy Horned Lark (*O. a. rubea*). Similar to No. 472e, but nape region, sides of breast, etc., much deeper in color, deeper than in any other of our Horned Larks; back less distinctly streaked with blackish and more ruddy in tone, *not* sharply defined from nape; yellow areas richer in color.

Range.—Sacramento County, California.

474g. Streaked Horned Lark (*O. a. strigata*). Cinnamon areas less extensive but nearly as deeply colored as in No. 474f; back *distinctly and widely* streaked with blackish; forehead, line over eye, throat and *breast* washed with yellow.

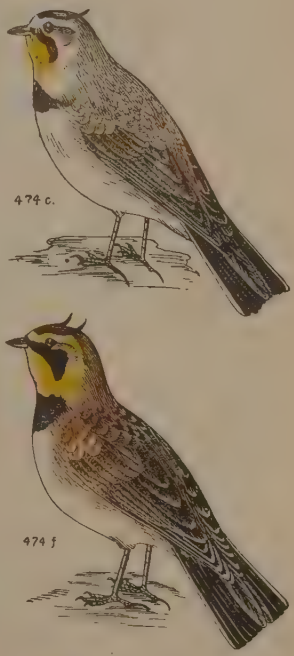
Range.—"In summer, the states of Oregon and Washington west of the Cascade Mountains; in winter, to eastern Oregon and Washington, south to northern California." (Oberholser.)

474h. Scorched Horned Lark (*O. a. adusta*). W. ♂, 4; ♀, 3.8. Nearest to No. 474l, but the male differs in being nearly uniform pinkish brown above, back with only a few indistinct brownish streaks; color deeper, browner, more ruddy.

Range.—"In summer, the central part of extreme southern Arizona; in winter, northern Sonora and Chihuahua, Mexico." (Oberholser.)

474l. Dusky Horned Lark (*O. a. merrillii*). W. ♂, 4; ♀, 3.8. Similar to No. 474b, but somewhat darker above, the line over the eye usually tinged with yellow.

Range.—"In summer, northwestern United States, and southern British Columbia, from northeastern California and northwestern Nevada, northward through Oregon and Washington east of the Cascade Mountains to British Columbia and extreme northern Idaho; in winter, south to central California." (Oberholser.)



474j. Sonoran Horned Lark (*O. a. pallida*). W. ♂, 3.8; ♀, 3.6. Nape very pale pinkish; back pale grayish brown edged with grayish; forehead, line over eye, and throat tinged with yellowish. Resembles No. 474l, but is still paler.

Range.—"Region immediately adjacent to the head of the Gulf of California, Mexico." (Oberholser.)

474l. Montezuma Horned Lark (*O. a. occidentalis*). W. ♂, 4; ♀, 3.8. No distinct blackish streaks above; back pale brownish edged with pinkish gray; throat yellow, forehead and line over eye tinged with yellow. Similar to No. 474h, but paler, less ruddy above; differs from No. 474c in being browner and less streaked above.

Range.—In summer, central New Mexico, west to central Arizona; in winter, south to northern Sonora and Chihuahua, Mexico and southeast Texas." (Oberholser.)

474m. Island Horned Lark (*O. a. insularis*). Similar to No. 474g, but slightly darker above, breast usually *without* a yellow tinge.

Range.—Santa Barbara Islands, California.

446. Couch Kingbird (*Tyrannus melancholicus couchii*). L. 9.5. *Ads.* Throat *white*, breast and belly yellow, tail *dark brown*; crown gray with an orange patch, back grayish green; *Yng.* Similar, but no crown-patch.

Range.—Guatemala, north in spring as far as Lower Rio Grande, Texas.

447. Arkansas Kingbird (*Tyrannus verticalis*). L. 9. *Ads.* Throat *light gray* spreading over breast to yellow belly; tail *black*, outer margin of outer feather *wholly white*; above resembling No. 446. *Yng.* With no crown-patch. *Notes.* Squeaky, rattling, rolling notes; a noisy bird.

Range.—Western United States; breeds east to about Long. 100°, north to Assiniboia, southern Alberta southern British Columbia, west to the Pacific; winters south of United States, to Central America.

448. Cassin Kingbird (*Tyrannus vociferans*). L. 9. *Ads.* Throat and breast *dark gray*, belly yellow; tail black, outer web of outer feather not wholly white; above as in No. 447. *Yng.* With no crown-patch. *Notes.* Less noisy than No. 447. (Bendire.)

Range.—Western United States, northwestern Mexico and north through Rockies, from western Texas, New Mexico and Arizona, to southern Wyoming; in California north to San Benito County; winters south of United States to Central America.

449. Derby Flycatcher (*Pitangus derbianus*). L. 11. *Ads.* Back brown, wings and tail externally rusty; a yellow crown-patch; forehead, line over eye and across nape white; throat white, below yellow. *Notes. Kiskadee*, repeated. (Richmond.)

Range.—Northern South America; breeds north as far as Lower Rio Grande, Texas.

451. Sulphur-bellied Flycatcher (*Myiodynastes luteiventris*). L. 8. Below sulphur streaked with black; tail largely rusty brown; a yellow crown-patch; inner wing feathers widely margined with whitish; back grayish brown streaked with dusky. *Yng.* With no crown-patch. *Notes.* A screech, like squeaking of a wagon wheel, and a single note. (Poling.)

Range.—Central America; breeds north as far as southern Arizona.

452. Crested Flycatcher (*Myiarchus crinitus*). L. 9. Inner webs of all but middle tail-feathers rust-brown. *Ads.* Throat and breast gray, belly *bright* sulphur; back grayish *olive-green*; greenest above and yellowest below of our larger *Myiarchi*. *Notes.* Loud, chuckling, grating whistles.

Range.—Eastern North America; west to the Plains; breeds from Florida and Texas north to New Brunswick and Manitoba; winters from southern Florida south to northern South America.

453. Mexican Crested Flycatcher (*Myiarchus mexicanus*). L. 9.2; W. 4. Inner webs of all but middle tail-feathers rust brown. *Ads.* Throat and breast gray, belly sulphur, both paler than in No. 452; back grayish brown, with little or no green tinge. *Notes.* Resemble those of No. 452. (Merrill.)

Range.—Central America; breeds north as far as Lower Rio Grande, Texas.

453a. Arizona Crested Flycatcher (*M. m. magister*). Similar to No. 453, but larger, L. 9.4, W. 4.2, and averaging slightly paler.

Range.—"Western Mexico; north to southern Arizona and southwest New Mexico; south in winter to Tehuantepec, Mexico."

454. Ash-throated Flycatcher (*Myiarchus cinerascens*). L. 8.; W. 4. Inner webs of all but middle tail-feathers rust-brown, outer pair dusky at tip of inner web. *Ads.* Throat and breast pale grayish white, belly white tinged with yellow, above grayish brown, outer web of outer tail-feather whitish. Palest below of our *Myiarchi*. *Notes.* A rather resonant but wooden *chŭck-pr-r-r-r*.

Range.—Western United States: breeds from western Texas and Lower California north to Colorado and Oregon; winters in southern Mexico and Central America.

454a. Nutting Flycatcher (*M. c. nuttingi*). Similar to No. 454, but smaller, W. 3.6, outer margin of outer tail-feather not whitish, tip of its inner web rusty, not dusky.

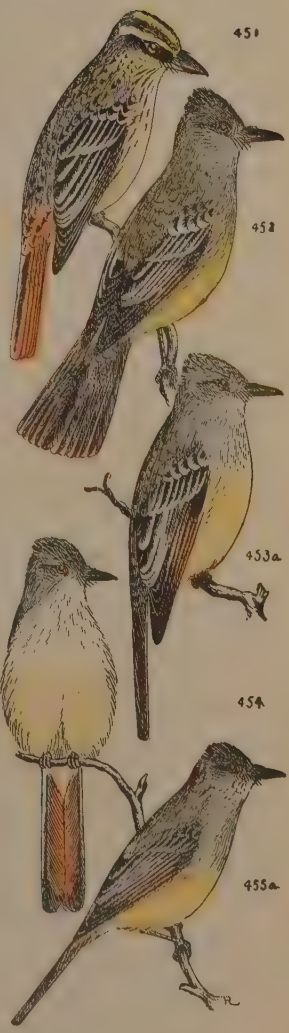
Range.—Breeds in southern Arizona and western Mexico; winters in Central America.

454b. Lower California Flycatcher (*M. c. pertinax*). Similar to No. 454a, but bill larger and stouter; above grayer; below less yellow. (Brewster.)

Range.—Lower California.

455a. Olivaceous Flycatcher (*Myiarchus lawrencei olivascens*). L. 7. *Ads.* Inner webs of tail-feathers like outer webs; tail-feathers margined with rusty; breast and belly as in No. 452; crown brownish, back grayish olive-green. *Notes.* A short mournful *peeur*.

Range.—Breeds from western Mexico north to southern Arizona; winters south to southern Mexico; casual in Colorado.



587. Towhee; Chewink (*Pipilo erythrophthalmus*). L. 8. Three outer tail-feathers with white; iris red. *Ad.* ♂. Above and breast black; sides reddish chestnut; belly white. *Ad.* ♀. Above and breast brown. Call, *chewink* or *towhee;* song, a loud, not over musical *sweet bird sin-n-ng*, and a tremulous refrain *I'll try.*

Range.—Eastern North America, west to the Plains; breeds from Georgia and Louisiana north to Maine, Ontario, and Manitoba; winters from Virginia and southern Illinois to Florida and eastern Texas.

587a. White-eyed Towhee (*P. e. alleni*). Similar to No. 587, but iris whitish; only two outer tail-feathers with white tips, or if on third, a mere spot. *Notes.* Call, *towhee*, much sharper than that of No. 587.

Range.—Florida, north along coast to South Carolina.

588. Arctic Towhee (*Pipilo maculatus arcticus*). L. 8.7. *Ad.* ♂. White tip of outer tail-feather more than 1.3 long; scapulars and back marked with white; back black more or less tipped with brownish. *Ad.* ♀. Breast and back grayish brown; fewer white markings than in ♂. *Notes.* Call, a Catbird-like *mew*; song, suggesting that of No. 587, but shorter, more wooden, less musical.

Range. Great Plains; breeding from southern Montana and western North Dakota, north to Saskatchewan; winters south and west to Colorado, Utah, New Mexico, and Texas; east to eastern Kansas.

588a. Spurred Towhee (*P. m. megalonyx*). Similar to No. 588, but blacker above, no brownish edgings on front of back; white markings on back less numerous; white tip to outer tail-feather *less* than 1.3 long.

Range.—Rocky Mountain region and west to the Pacific; breeds from Mexico to British Columbia; migratory in the northern part of range.

588b. Oregon Towhee (*P. m. oregonus*). Similar to No. 588a, but darker; practically no brownish edgings on back of male; sides much deeper; white markings much reduced, the white tip to outer tail-feather less than 1. long; sides much deeper.

Range.—Pacific coast from San Francisco to British Columbia; winters south to southern California.

588c. San Clemente Towhee (*P. m. clementæ*). Similar to No. 588a, but adult male with black duller or grayer; female lighter brown. (Ridgw.)

Range. "San Clemente, Santa Cruz, Santa Rosa, and Santa Catalina Islands," southern California. (Grinnell.)

288d. San Diego Towhee (*P. m. atratus*). Similar to No. 588a, but decidedly darker, with white markings of wings, tail, etc., more restricted; rump deep black.

Range.—The southern coast district of southern California, south into Lower California. (Ridgw.)

588e. Mountain Towhee (*P. m. magnirostris*). Similar to No. 588, but bill much larger, rufous below paler, above browner and tinged with olive. (Brewster.)

Range.—Cape Region of Lower California.

589. Guadalupe Towhee (*Pipilo consobrinus*). Similar to No. 588b in restriction of white markings, but wings and tail much shorter, W. 3.1; T. 3.2, hind claw much larger; *Ad.* ♂ sooty rather than black (Ridgw.)

Range.—Guadalupe Island, Lower California.

457. Say Phoebe (*Sayornis saya*). L. 7.5. *Ads.* Breast rusty gray changing to rusty on belly; above gray with a brown tinge; tail *black*. *Notes.* A plaintive *phee-eur*; a short, plaintive, twittering warble. (Bendire.)

Range.—Western North America, east to about Long. 100°: breeds from southwestern Texas, southern California, north to the Yukon, Alaska; winters in Mexico; accidental in Wisconsin, Illinois, and Massachusetts.

591. Canon Towhee (*Pipilo fuscus mesoleucus*). L. 9.; W. 3. 7. *Ads.* Crown cinnamon-brown; back brownish gray; throat buffy bordered by blackish spots; lower belly and under tail-coverts cinnamon. *Notes.* Calls, a loud, metallic *chip* repeated four times; in flight a robin-like *screep-eep-eep*.

Range.—Northern Mexico north to western Texas, Arkansas Valley, Colorado, and Arizona; resident.

591a. St. Lucas Towhee (*P. f. albigula*). W. 3. 3. Similar to No. 591, but smaller; abdomen whiter, without cinnamon.

Range.—Southern Lower California.

591b. California Towhee (*P. f. crissalis*) W. 3. 9. Similar to No. 591, but much browner above; throat and under tail-coverts rusty brown; breast brownish gray; scarcely lighter on the belly.

Range.—California, west of the Sierra.

591c. Anthony Towhee (*P. f. senicula*). W. 3. 7. Similar to No. 591b, but smaller and grayer, the abdomen whiter.

Range.—Northern Lower California north to southern California.

592. Abert Towhee (*Pipilo aberti*). L. 9. *Ads.* No crown-cap; lores and chin blackish, below pinkish cinnamon; above grayish brown. *Notes.* Call, a loud, clear, sharp *chirp*. Song, resembling that of the Spurred Towhee group. (B. B. and R.)

Range.—Southern California, Arizona, and northwestern New Mexico, north to southern Nevada and southwestern Utah.

Perching Birds Marked With Chestnut or Reddish Brown

506.

506. Orchard Oriole (*Icterus spurius*) L. 7. 3. *Ad.* ♂. Black; breast, belly, rump, and lesser wing-coverts chestnut. *Ad.* ♀. Above olive-green, below greenish-yellow; two white wing-bars. *Yng. Male.* First fall like ♀; first spring like ♀, but throat black. *Notes.* Song much richer and more finished than that of the orange and black Orioles; the difference is indescribable but easily recognizable.

Range.—Eastern North America, west to the Plains; breeds from Florida and Texas north to Massachusetts, Ontario, Michigan, and North Dakota; winters in Central America and northern South America.

592.1

592.1. Green-tailed Towhee (*Oreospiza chlorura*). L. 7. *Ads.* Center and sides of breast grayish, middle of throat and abdomen white: above olive-green more or less washed with grayish; crown reddish chestnut. *Notes.* Call, a high, thin kitten-like mew; song, musical, suggesting that of the Thick-billed Sparrow.

Range.—Mountains of western United States, from more eastern Rockies to Coast Range in California; north to central Montana, Idaho, and eastern Washington; south, at least in winter, into Mexico. (Ridgw.)

643.

660

643. Lucy Warbler (*Helminthophila luciæ*). L. 4.2. *Ad.* ♂. Above gray; crown-patch and upper tail-coverts chocolate; below whitish. *Ad.* ♀. Chocolate areas smaller. *Yng.* No chocolate in crown; upper tail-coverts cinnamon.

Range.—Northwestern Mexico; breeding north to Arizona and southwestern Utah.

660. Bay-breasted Warbler (*Dendroica castanea*). L. 5.6. *Ad.* ♂. Throat, sides and crown rich chestnut; cheeks black; sides of neck buff; back black and gray; wing-bars and tail-spots white. *Ad.* ♀. Less chestnut; cheeks grayish. *Yng. and Ad. in Winter.* Above olive-green streaked with black; below *buffy* white, the flanks usually with a trace of chestnut. *Notes.* Song, a very sott warble, *tse-chee*, repeated five times, too liquid to admit of exact spelling. (Langille.)

Range.—Eastern North America; breeds from northern New England and northern Michigan north to Labrador and Hudson Bay region; winters in Central and northern South America.

596. Black-headed Grosbeak (*Zamelodia melanocephala*). L. 8.1. *Ad.* ♂. Black; neck-ring, rump, back-streaks and underparts bright cinnamon; center of belly and under wing-coverts yellow; patch in wing, wing-bars and tips of inner vanes of outer tail-feathers white. In winter tipped with brown above and on breast below with black spots. *Ad.* ♀. Under wing-coverts yellow as in ♂; above as in No. 595; below less streaked, breast buff. *Yng.* ♂. Like ♀ but breast deeper buff; few streaks below; sides of crown blacker. *Notes.* Call and song like those of the Rose-breasted Grosbeak, but the latter more fluent.

Range.—Western United States, east to the Plains; breeds from Mexico north to Dakota and British Columbia; winters south of United States into Mexico.

761. American Robin (*Merula migratoria*). L. 10; W. 4.9; T. 3.8. Outer tail-feathers with white tips. *Ad.* ♂. Breast and belly rich rust-brown; above dark slaty, head and spots in back black. *Ad.* ♀. Similar but paler below, little or no black above. *Winter.* Underparts margined with whitish; black above more or less concealed by ashy. *Notes.* Calls, varied and characteristic; song, a loud, hearty, *cheer-up cheerily, cheerily, cheerily*, repeated and varied.

Range.—Eastern North America, west to the Rockies, northwest to Alaska; breeding south to Virginia and, in the mountains, Georgia; winters from northern States southward.

761a. Western Robin (*M. m. propinqua*). Similar to No. 761, but no white tips to tail-feathers. *Ad.* ♂. Without black spots in back.

Range.—Western United States, from the eastern base of the Rocky Mountains west to the Pacific; breeds from the southern end of the Mexican tableland north to British Columbia; winters from Oregon and southern Colorado southward.

761b. Southern Robin (*M. m. achrustera*). Similar to No. 761, but smaller and in general much lighter and duller; W. 4.7; T. 3.5. (Batchelder.)

Range.—Carolinas and Georgia, except mountainous districts, lowlands of Virginia.

762. St. Lucas Robin (*Merula confinis*). Resembling No. 761 in plan of coloration but everywhere much paler; breast and belly buff; no black in head.

Range.—Cape Region of Lower California.

763. Varied Thrush (*Ixoreus naevius*). L. 10; W. 4.7. *Ad.* ♂. Below rust-brown, belly whiter, a broad black breast-band; above slaty, line behind eye and bars in wing rusty; outer tail-feathers with white tips. In winter washed with brownish above; breast band with rusty. *Ad.* ♀. Paler below, breast-band faintly indicated; above washed with brownish. *Notes.* Song, a weird vibrant, long-drawn whistle repeated on different notes.

Range.—Pacific coast from higher mountains of northern California north to Alaska; south in winter along the coast.

763a. Pale Varied Thrush (*I. n. meruloides*). Similar to No. 763, but wing longer, 5.1; ♀ paler and grayer. (Grinnell.)

Range.—Interior of British Columbia north to north Alaska; south in winter, through interior, to southern California.

456. Phœbe (*Sayornis phœbe*). L. 7. *Ads.* Above grayish olive, crown *blackish*; outer web of outer tail-feather *whitish*; below white tinged with yellow, sides of breast grayish; bill *black*. *Yng.* Greener above, yellower below. *Notes.* *Pewit-phœbe, pewit-phœbe;* call, *pee, pee,* rarely a flight song.

Range.—Eastern North America, west to the Rockies; breeds from South Carolina and western Texas north to Newfoundland and Manitoba; winters from North Carolina and northern Texas south to Cuba and Mexico.

459. Olive-sided Flycatcher (*Nuttalornis borealis*). L. 7.4. *Ads.* Throat and middle of belly white with a yellow tinge; sides and most of breast grayish; above brownish gray with an olive-tinge, crown darker, the feathers lengthened. *Notes.* *Hip-hip* or *quilp-quilp,* less often a loud, emphatic *whip-pēw-hip.* (Head.)

Range.—North America; breeds from Massachusetts (rarely), northern New York, and Minnesota, northward to Alaska, south through the Rockies and Coast Range to Mexico; winters in Central and South America.

460. Coues Flycatcher (*Contopus pertinax pallidiventris*). L. 7.7. *Ads.* Below nearly uniform gray, belly paler; above gray, crown slightly darker, the feathers lengthened. *Notes.* A plaintive musical four or five noted whistle with regular intervals and a singularly human-like quality.

Range.—Western Mexico, north to central Arizona; winters south of United States.

461. Wood Pewee (*Contopus virens*). L. 6.5; W. 3.3. *Ads.* Above dark olive, crown blacker; below dusky grayish, throat whitish, belly yellowish; lower mandible yellowish. *Yng.* Greener above, yellower below. *Notes* *Pee-a-wee, peer* and *pee;* all plaintive and musical.

Range.—Eastern North America, west to about Long. 100°; breeds from Florida and Texas north to New Brunswick and Manitoba; winters in Central America.

462. Western Wood Pewee (*Contopus richardsonii*). Similar to No. 461, but above with usually no greenish tinge; below less yellow; under mandible brownish. *Notes.* A nasal, rather emphatic *pēē-a.*

Range.—Western United States, east to about Long. 100°; breeds from western Texas and Lower California north to Manitoba, Alberta, and British Columbia; winters in Mexico and Central America.

462a. Large-billed Wood Pewee (*C. r. peninsulæ*). Similar to No. 462, but smaller, W. 3.3; the bill larger, length from nostril .42, width at nostril, .31; upper-parts grayer. (Brewster.)

Range.—Cape Region of Lower California.

466. Traill Flycatcher (*Empidonax traillii*). Similar to No. 466a, but upperparts browner with little if any real greenish tinge; bill averaging narrower,

Range.—Western United States; breeds from western Texas and southern California north to Alaska and Great Slave Lake, east to Kansas, Missouri and Illinois; winters in the tropics.

466a. Alder Flycatcher (*E. t. alnorum*). L. 6.1; W. 2.8. *Ads.* Lower mandible horn color; below white, breast grayish; breast and sides faintly washed with yellow; above *brownish* olive-green; wing-bars usually buffy. Like No. 467, but larger. *Notes.* *Pĕp* of alarm, and an explosive *ĕĕ-ẓĕĕ-e-ŭp* with stress on the rasping *ẓĕĕ*. (Dwight.)

Range.—Eastern United States, west to Michigan; breeds from northern New Jersey (locally) north to New Brunswick; winters in the tropics,

467. Least Flycatcher (*Empidonax minimus*). L. 5.4; W. 2.5. *Ads.* Similar in color to No. 466a, but smaller, tail slightly forked. *Yng.* Wing-bars more buffy. *Notes.* a vigorous *chebec, chebec;* rarely a flight song, "*chebec, tooral-ooral.*"

Range.—Eastern North America, west to western Texas and eastern Colorado; breeds from Pennsylvania (North Carolina, in the Alleghanies) north to New Brunswick and Great Slave Lake; winters in Central America.

468. Hammond Flycatcher (*Empidonax hammondi*). L. 5.5. *Ads.* Bill smallest of our *Empidonaces*, *lower* mandible *brown*; *throat* and breast grayish, breast and belly slightly washed with sulphur; above grayish with a slight olive tint. Like No. 467, but bill smaller, lower mandible browner, throat grayer.

Range. Western North America; breeds from the mountains of New Mexico, Arizona, and southern Athabasca, east to Colorado; winters in Mexico.

469. Wright Flycatcher (*Empidonax wrightii*). Similar to No. 468, but underparts whiter; bill much longer, longest and narrowest of our *Empidonaces*; lower mandible whitish at base, brownish at tip; outer web of outer tail-feather white.

Range.—Western United States, east to eastern slope of Rockies; breeds from mountains of New Mexico, Arizona, and southern California north to Montana and southern Oregon; winters in Mexico.

469.1. Gray Flycatcher (*Empidonax griseus*). L. 6. *Ads.* Above gray with a *slight* brownish tinge; below grayish white with little or no yellow. Grayest of our *Empidonaces*.

Range.—Western Mexico and Lower California north to southern California and Arizona, (Fort Verde.)

463

463. Yellow-bellied Flycatcher (*Empidonax flaviventris*). L. 5 6. *Ads.* Below distinctly greenish yellow, belly brighter; above *bright* olive-green. *Yng.* Brighter, wing-bars buffy. *Notes.* *Psĕ-ĕk* in one harsh explosive syllable; a plaintive *chŭ-ĕ-é-p.* (Dwight.)

Range. Eastern North America, west to the Plains; breeds from northern New England (south in Alleghanies to Pennsylvania), northern New York, and Minnesota, north to Labrador and Northwest Territories; winters in Central America.

464.

464. Western Flycatcher (*Empidonax difficilis*). Similar to No. 463, but brighter yellow below, breast washed with brownish instead of greenish; above yellower. *Notes.* A soft low note, and a wailing *pee-eu.* (C. A. Allen.)

Range.—Western North America; east to about Long. 100°; breeds from Mexican border north to southern Alaska; winters in Mexico and Central America.

464.1. St. Lucas Flycatcher (*Empidonax cineritius*). Most like No. 464, but much duller; scarcely a tinge of green above; no decided yellow below except on throat and abdomen. (Brewster.)

Range.—Lower California, from Cape Region north, rarely, to southern California.

464.2. Santa Barbara Flycatcher (*Empidonax insulicola*). Similar to No. 464, but above darker and browner; below paler. (Oberholser.)

Range.—Santa Barbara Islands, California.

465

465. Green-crested Flycatcher (*Empidonax virescens*). L. 5.7. *Ads.* Throat and belly *white*, breast grayish; sides, breast and sometimes belly, washed with sulphur; back olive-green, a tint lighter than in No. 463; lower mandible *whitish*; wing-bars buffy. *Notes.* *Spee* or *peet* and *pee-e-yuk.*

Range.—Eastern United States, west to the Plains; breeds from the Gulf States to southern Connecticut and Manitoba; winters in Central America.

646

646. Orange-crowned Warbler (*Helminthophila celata*). L. 5. No white in wings or tail. *Ad.* ♂. Above olive-green more or less washed with grayish; a concealed, reddish orange crown-patch; below dusky yellowish green. *Ad.* ♀. Similar, but grayer, crown-patch smaller or wanting. *Yng.* Like ♀, but no crown-patch. *Notes.* Song full and strong, not very high pitched and ending abruptly on a rising scale, *chee, chee, chee, chw', chw'.* (Jones.)

Range.—Interior of North America, breeding from Manitoba and mountains of New Mexico to Alaska; winters in Gulf States and southward; rare in Atlantic states north of South Carolina.

646a. Lutescent Warbler (*H. c. lutescens*). Similar to No. 646, but greener above, yellower below; underparts distinctly yellow with a dusky wash.

Range.—Pacific coast; breeding in mountains from southern California to Kenai Peninsula, Alaska; winters from California south into Mexico; east to Colorado in migrations.

646b. Dusky Warbler (*H. c. sordida*). Similar to No. 646a, but decidedly darker, bill and feet larger, wing shorter and tail longer. (Ridgw.)

Range.—Breeds in Santa Barbara Islands, California; later occurs on adjoining mainland.

472. Beardless Flycatcher (*Ornithion imberbe*). L. 4.5; W. 2.10. *Ads.* Bill small, narrow, upper mandible decidedly curved; above gray tinged with olive, below grayish white with a yellow tinge.

Range.—Central America; north in spring to Lower Rio Grande Texas.

472.

472a. Ridgway Flycatcher (*O. i. ridgwayi*). Similar to No. 472, but larger, W. 2.2; grayer, little if any sulphur tinge on underparts. (Ridgw.) *Notes.* Call, a shrill *piér* repeated; song, from the tree-tops, *yoop, yoop, yoopeédeedledee.* (Stephens.)

Range.—Southern border of Mexican tableland north in spring to southern Arizona.

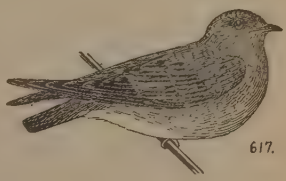
616. Bank Swallow (*Riparia riparia*). L. 5.2. *Ads.* Below white, a broad grayish brown band across the breast; above grayish brown. *Yng.* Similar, but brown areas more or less tipped with rusty.

Range.—Northern hemisphere: in America, breeds from northern New Jersey, Kansas, and southern California, north to Labrador, and Alaska; winters south to Brazil.

616

617. Rough-winged Swallow (*Stelgidopteryx serripennis*). L. 5.5. *Ads.* Above grayish brown; below grayish white, whiter on belly; barbs on outer vane of outer primary recurved. *Yng.* Plumage more or less tipped with rusty.

Range.—United States; breeds from Mexico north to Massachusetts, Manitoba, and British Columbia; winters in Central America.

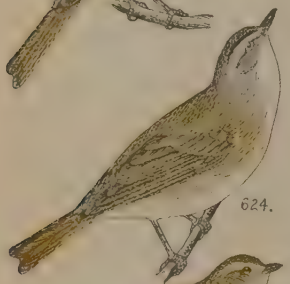


617.

623.

623. Black-whiskered Vireo (*Vireo calidris barbatulus*). L. 6. *Ads. A dusky streak on either side of the throat,* crown slate *without* a black border; back olive-green; below white, lowei belly, under tail- and under wing-coverts yellowish; no wing-bars. *Notes.* Resemble those of No. 624 but song more emphatic and hesitating.

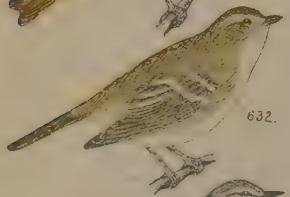
Range.—Breeds in Cuba, Bahamas and southern Florida; winters in Central America.



624.

624. Red-eyed Vireo (*Vireo olivaceus*). L. 6.2. *Ads.* Crown slate, on either side a narrow black border; a white line over eye; above olive-green; below white; under wing-coverts sulphur; no wing-bars; no dusky streaks on throat. *Notes.* Call, a petulant, complaining *whang*; song, a broken, rambling recitative "you see it—you know it—do you hear me?—do you believe it?"

Range.—Eastern United States, west to the Rockies and British Columbia, east of Cascades; breeds from the Gulf States to Labrador, Manitoba, and British Columbia; winters in Central and South America.



632.

632. Hutton Vireo (*Vireo huttoni*). L. 4.8. *Ads.* Underparts dusky grayish white with a faint yellow tinge; above dusky olive-green; lores and eye-ring grayish, not conspicuous; two white wing-bars. *Notes.* A piping whistle like the call of a young bird, *pee-yer, pee-yer*; and a hoarse whistle *oh-my, oh-my, oh-my*.

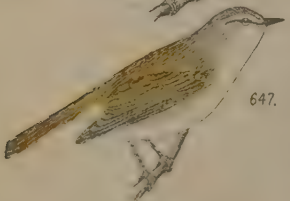
Range.—California, west of Sierra; resident.

632a. Stephen Vireo (*V. h. stephensi*). Similar to No. 622, but grayer above, whiter below, wing-bars broader.

Range.—Mexican boundary from western Texas to southeastern California.

632c. Anthony Vireo (*V. h. obscurus*). Similar to No. 632, but darker, and averaging slightly smaller.

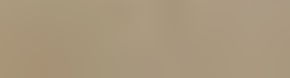
Range.—"Pacific coast, from Oregon to southern British Columbia; south in winter to California." (A. O. U.)



647.

647. Tennessee Warbler (*Helminthophila peregrina*). L. 5. No wing-bars; little or no white in tail. *Ad.* ♂. Head bluish gray; a whitish line over eye; back olive-green; below grayish white. *Ad.* ♀. Gray of head with more or less olive-green; stripe over eye and underparts yellower. *Yng.* Similar to ♀, but entirely bright olive-green above; yellower below. *Notes.* Song scarcely distinguishable from that of the Chipping Sparrow, but first two syllables *twip* instead of *chip*. (Jones.)

Range.—Eastern North America, west in migrations to the Rocky Mountains; breeds from New Brunswick, northern New England, northern New York, and Minnesota, north to Quebec and Alaska; winters in Central and northern South America.



747.

747. Kennicott Willow Warbler (*Phyllopseustes borealis*). L. 5. *Ads.* Above olive-green; below white tinged with yellowish, sides greenish; a whitish line over eye; a narrow whitish wing-bar; no white in tail. *Notes.* Call, a monotonous *dzit*; song, resembles trill of Redpoll. (Seebohm.)

Range.—Asia, east to western Alaska.

625. Yellow-green Vireo (*Vireo flavoviridis*). L. 6.4. Resembling No. 624, but greener above, the sides heavily washed with greenish yellow.

Range.—Northern South America, north to the Lower Rio Grande.

626. Philadelphia Vireo (*Vireo philadelphicus*). L. 4.8. *Ads.* No distinct crown-cap; above olive-green; below yellowish; a whitish line over eye; no wing-bars. *Notes.* Resemble those of the Red-eyed Vireo but generally higher pitched; also a very abrupt, double-syllabled utterance with a rising inflection which comes in with the song at irregular intervals. (Brewster.)

Range.—Eastern North America; breeds from Maine, New Hamshire and Manitoba northward; winters in the tropics.

627. Warbling Vireo (*Vireo gilvus*). L. 5.4; W. 2.8. *Ads.* Above grayish olive-green, crown slightly grayer but without distinct cap as in No. 624; a whitish line over eye but no black line above it; below white, the sides washed with yellowish; no wing-bars. *Notes.* Call, resembles that of the Red-eyed Vireo; song; a rich, firm, unbroken warble with an alto undertone.

Range.—Eastern United States, west to the Plains; breeds from Gulf States north to Hudson Bay region; winters in Mexico.

627a. Western Warbling Vireo (*V. g. swainsoni*). Similar to No. 627, but averaging smaller, W. 2.6, the bill more slender; upperparts, particularly crown, grayer.

Range.—Western United States, east to the Rockies; breeds from Mexico to BritishColumbia; winters in Mexico.

631. White-eyed Vireo (*Vireo noveboracensis*). L. 5; W. 2.4.; B. .4. *Ads.* Eye-ring and lores yellow; iris white; above olive-green more or less washed with grayish; below white, sides yellowish; two whitish wing-bars. *Notes.* Calls, varied, often harsh and scolding; song, an emphatic whistle *who are you, eh?* or *what's that you say?*, and a low medley often including imitations of the notes of other birds.

Range.—Eastern United States; breeds from Florida and Texas north to New Hampshire and Minnesota; winters from Florida to Central America.

631a. Key West Vireo (*V. n. maynardi*). Similar to No. 631, but bill heavier, sides averaging less yellow.

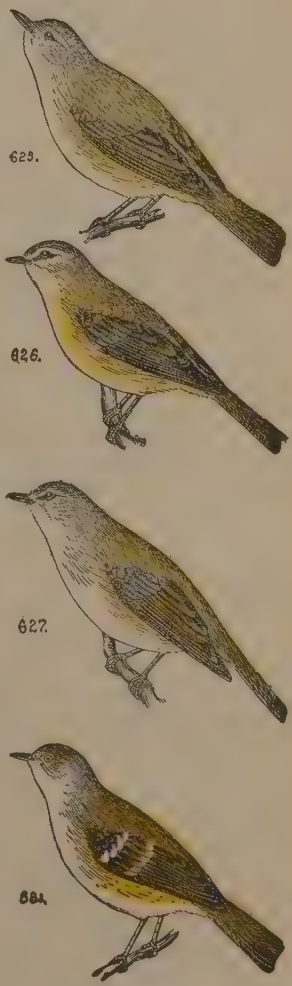
Range.—Southern Florida; resident.

621b. Bermuda White-eyed Vireo (*V. n. bermudianus*). Similar to No. 631, but wing shorter, 2.30; no yellow on sides. (Bangs and Bradlee.)

Range.—Resident in Bermudas.

631c. Small White-eyed Vireo (*V. n. micrus*). Smaller than No. 631, W. 2.2; averaging grayer above; sides with less yellow.

Range.—Northeastern Mexico, north to southeastern Texas.



629.

629. Blue-headed Vireo (*Vireo solitarius*). L. 5.5; W. 2.9; B. .4. *Ads.* Lores and eye-ring white; crown and cheeks bluish slate-color; back olive-green; below white, sides washed with greenish yellow; two whitish wing-bars. *Notes.* Resembling in form those of Red-eyed or Yellow-throated Vireos but more varied, sometimes a continuous warble; a musical chatter, like that of the Yellow-throated and a trilled whistle. (Torrey.)

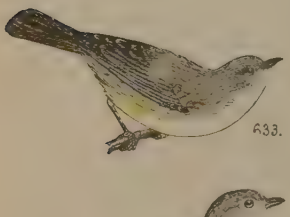
Range.—Eastern North America; breeds from Connecticut (and south along Alleghanies) north to New Brunswick and Manitoba; winters from Florida to Central America.

629a. Cassin Vireo (*V. s. cassini*). Like No. 629, but back washed with the color of the head; white on breast and throat less pure.

Range.—"Breeds from British Columbia and Idaho south along Pacific coast region and Nevada to Lower California; migrates to Arizona, New Mexico; and northern Mexico." (Bailey.)

629b. Plumbeous Vireo (*V. s. plumbeus*). Above wholly plumbeous-gray with scarcely, if any, olive tinge, below white, the sides gray *faintly* tinged with greenish yellow; size of No. 629c.

Range.—Rocky Mountain region; breeds from northern Mexico north to southwestern Dakota and Wyoming; winters south to southern Mexico.


633.

629c. Mountain Solitary Vireo (*V. s. alticola*). Larger than No. 629, W. 3.15, B. .46; head darker, its color extending over most of the back.

Range.—Breeds in Alleghanies from North Carolina to Georgia; winters in Florida.

629d. St. Lucas Solitary Vireo (*V. s. lucasanus*). Smaller than No. 629a, but bill longer and stouter, sides and flanks much yellower; young without brownish below, and resembling young of No. 629.

Range.—Cape Region of Lower California.

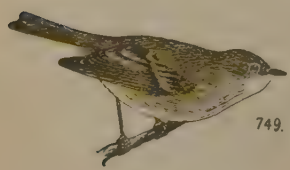
634.

633. Bell Vireo (*Vireo bellii*). L. 5. Above olive-green, crown grayer; lores and eye-ring white; two inconspicuous whitish wing-bars; below white, sides tinged with yellowish. Most like No. 627, but back greener, no white line *back* of eye. *Notes.* Resemble those of the White-eyed Vireo, but less harsh, song less emphatic. (Goss.)

Range.—Interior states from Illinois west to Plains; breeds from Texas to Minnesota; winters in Mexico.

633.1. Least Vireo (*Vireo pusillus*). L. 4.8. *Ads.* Above gray, slightly tinged with greenish toward rump; below white, sides with little if any greenish tinge; one inconspicuous whitish wing-bar; lores and eye-ring inconspicuously grayish.

Range.—Northwestern Mexico and northern Lower California; breeds north to Arizona and middle California.


749.

634. Gray Vireo (*Vireo vicinior*). L. 5.5. Above slaty gray; below white tinged with grayish; one inconspicuous wing-bar; lores and eye-ring gray; bill short. *Notes.* Song may be compared with the finest efforts of the Blue-headed Vireo with the added charm and mellowness of the song of the Yellow-throated Vireo. (Henshaw.)

Range.—Northern Mexico, north to western Texas, southeastern California, and southern Nevada; winters in Mexico.

749. Ruby-crowned Kinglet (*Regulus calendula*). L. 4.4. A conspicuous whitish eye-ring. *Ad.* ♂. A more or less concealed crown-patch; back olive-green; underparts soiled whitish more or less tinged with buffy; two white wing-bars. *Ad.* ♀ and *Yng.* (Here figured.) Similar, but no crown-patch.

Range.—North America; breeds from the northern border of the United States northward, and south in the Rocky Mountains to Arizona, and in the Sierra Nevada of California; winters from south Carolina and Oregon southward to Central America.

749a. Sitkan Kinglet (*R. c. grinnelli*). Similar to No. 749, but more olive-green above; more buffy below.

Range.—Pacific coast; breeds in southern Alaska; winters southward to California.

470a. Buff-breasted Flycatcher (*Empidonax fulvifrons pygmæus*). L. 4.7. *Ads.* Below rusty buff; above grayish brown.

Range.—Western Mexico; north in spring to southwestern New Mexico and Arizona.

586. Texas Sparrow (*Arremonops rufivirgata*). L. 6.5. *Ads.* Above olive-green, sides of crown brownish, its center grayish; below whitish; bend of wing *yellow*. *Notes.* Song resembles that of the Chipping Sparrow but with somewhat of the sweetness and modulation of that of the Yellow Warbler.

Range.—Eastern Mexico, north to southeastern Texas; casually to Louisiana.

638. Swainson Warbler (*Helinaia swainsonii*). L. 5. Bill large; no white in wings or tail. *Ads.* Crown brown, back, wings and tail olive-brown; a whitish line over eye; below whitish tinged with yellow. *Notes.* Song, "a series of clear, ringing whistles, the first four uttered rather slowly and in the same key, the remaining five or six given more rapidly and in an evenly descending scale." (Brewster.)

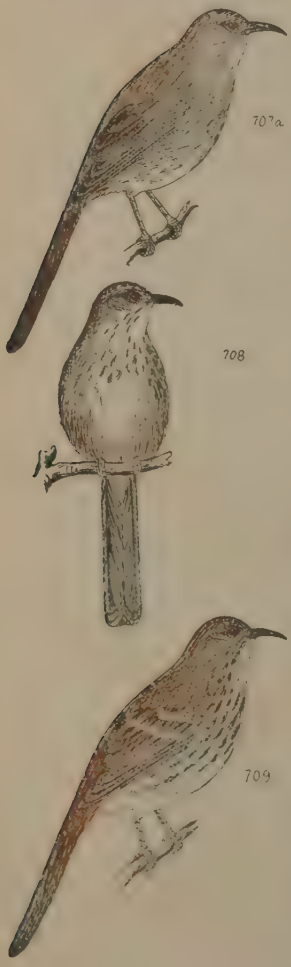
Range.—Southeastern United States; breeds from Gulf States north to southeastern Virginia, southern Indiana and southern Missouri.

639. Worm-eating Warbler (*Helmitheros vermivorus*). L. 5.5. Bill large; no white in wings or tail *Ads.* Crown black with three buff stripes; back, wings and tail olive-green; below buffy white deeper on breast. *Yng.* Buff everywhere richer. *Notes.* Call, a sharp *chip*; song, resembles that of Chipping Sparrow but is somewhat weaker.

Range.—Eastern United States; breeds north to southern Connecticut, southern Illinois and southern Wisconsin; winters south of United States.

742. Pallid Wren-tit (*Chamæa fasciata*). L. 6.7; T. 3.4. Outer tail-feathers shortest. *Ads.* Above brownish gray; below buffy obscurely streaked with gray. *Notes.* Song wooden and unmusical, beginning deliberately and ending in a roll, *chick; chick; chick, chick-chick-chick-chick-chick-chick-chick.*

Range.—"Interior of California, including the western slope of the Sierra Nevada, from the head of the Sacramento Valley south to northern Lower California." (A. O. U.)



742a. Coast Wren-tit (*C. f. phæa*). Similar to No. 742, but much browner above and deeper more pink below; sides as dark as back.

Range.—Pacific Coast from Monterey County, California, north to southern Oregon.

707. Curve-billed Thrasher (*Toxostoma curvirostre*). L. 11.2. *Ads.* Above brownish gray; below mottled with brownish gray; lower belly buffy; four outer pairs of tail-feathers *tipped with white;* two narrow white wing-bars. *Notes.* Call, a sharp, *whit-whit*; one of the most silent of song Thrushes. (Merrill.) Song, remarkably melodious and attractive. (Couch.)

Range.—Mexican boundary region of Texas and New Mexico south over the Mexico tableland to Oaxaca.

707a. Palmer Thrasher (*T. c. palmeri*). Similar to No. 707, but wing-bars less evident; outer tail-feathers *without* white tips.

Range.—"Southern Arizona, from about fifty miles northwest of Phœnix, south to Guaymas, Sonora." (A. O. U.)

708. Bendire Thrasher (*Toxostoma bendirei*). L. 10.2. *Ads.* Above brownish ashy; below soiled whitish washed with buffy and lightly spotted with dusky, chiefly on breast; outer tail-feathers narrowly tipped with whitish. *Notes.* Call, *tirup*, *tirup*, *tirup*. (Brown.)

Range.—Desert regions of southern Arizona south into Sonora, Mexico; west rarely to southeastern California; resident except at extreme northern limit of its range.

709. St. Lucas Thrasher (*Toxostoma cinereum*). L. 10. *Ads.* Above grayish brown; below white with numerous wedge-shaped spots; outer tail-feathers tipped with white.

Range.—Southern Lower California.

709a. Mearns Thrasher (*T. c. mearnsi*). Differs from No. 709 in much darker upperparts, more rusty flanks and crissum, much larger and more intensely black spots on lower parts and less curved bill. (Anthony.)

Range.—Northern Lower California, south to about Lat. 30° 30'.

710. Californian Thrasher (*Toxostoma redivivum*). L. 12. *Ads.* Above grayish brown; belly distinctly buff; breast grayish, throat whitish, washed with buff; no white in wings or tail. *Notes.* Song suggesting both that of the Brown Thrasher and the Mockingbird.

Range.—California west of the Sierra Nevada, north of about Lat. 35°; south into Lower California.

710a. Pasadena Thrasher (*T. r. pasadenense*). Similar to No. 710, but grayer above; belly paler, throat whiter.

Range.—Southern California.

711. Leconte Thrasher (*Toxostoma lecontei*). L. 10.5. *Ads.* Above brownish ashy, below creamy white, under tail-coverts buff. *Notes.* Call, a sharply reiterated *whit* or *quit*; song, remarkable for its loud rich tone; can be heard distinctly for more than a mile. (Mearns.) Call, low and musical, *hueé-e*, whistled through the teeth. (Stephens.)

Range.—"Desert region of southern California, Nevada, and extreme southwestern Utah, from Benton, Cal. (Lat. 38°), southeastward through Arizona to Sonora (Lat. 30°). Local in San Joaquin Valley." (A. O. U.)

711a. Desert Thrasher (*T. l. arenicola*). Differing from No. 711 in having upperparts darker and grayer, tail blacker, and breast gray. (Anthony.)

Range.—Northern Lower California. (Rosalia Bay.)

712. Crissal Thrasher (*Toxostoma crissalis*). L. 12. *Ads.* Under tail-coverts reddish *chestnut*; upperparts brownish gray; underparts ashy, chin white. *Notes.* No loud call note; song of remarkable scope and sweetness. (Mearns.)

Range.—"Southwestern United States, from western Texas to the Colorado Desert, California, and northern Lower California; north to Charleston Mountains, Nevada, and St. George, Utah." (A. O. U.)

538. Chestnut-collared Longspur (*Calcarius ornatus*). L. 6.2. Hind toe-nail as long as toe; all but middle pair of tail-feathers (and sometimes these) with white, *two* outer pairs white *to the tip*. *Ad.* ♂. Throat and cheeks buff; breast and belly black; crown black, nape chestnut; lesser wing-coverts black tipped with white. *Ad.* ♀. Above grayish brown streaked with black; below pale buff. ♂ *in winter*. Like summer ♂ but black and chestnut areas more or less tipped with grayish brown. *Notes.* Song, short, shrill, but very sweet, often uttered on the wing. (Allen.)

Range.—Great Plains; breeds from central Kansas and eastern Colorado north to the Saskatchewan; winters from eastern Colorado and Nebraska south into Mexico.

539. McCown Longspur (*Rhynchophanes mccownii*). L. 6. Hind toe-nail as long as toe; all but middle pair of tail-feathers with white, the outer *one* white *to the tip*, the others tipped with black; lesser wing-coverts *chestnut*. *Ad.* ♂. Throat and belly white, breast and crown black; back grayish brown streaked with black. *Ad.* ♀. Below white washed with brownish; above grayish brown streaked with black. ♂ *in winter*. Like ♀ but a partly concealed black breast patch; tail with more white. *Notes.* Call, a *chip* at each stroke of the wing; song, of soft, twittering, pleasing notes. (Goss.) "A twittering, hurried chant, suggestive of the Horned Lark's performance, but terminating in decreasing power." (Silloway.)

Range.—Great Plains; breeds from northwestern Kansas to Montana and the Saskatchewan; winters from eastern Colorado and Kansas south into Mexico.

552. Lark Sparrow (*Chondestes grammacus*). L. 6.2; *Ads.* Sides of the crown and ear-coverts chestnut; all but middle tail-feathers tipped with white; back broadly streaked with black; sides of throat and spot on breast black. *Notes.* Song, loud and musical suggesting both a Song Sparrow's and a Canary's.

Range.—Interior of North America from the Plains east to Illinois; casually east of the Alleghanies; breeds from Texas to Manitoba; winters south into Mexico.

552a. Western Lark Sparrow (*C. g. strigatus*). Similar to No. 552, but streaks on upperparts generally narrower.

Range.—Western United States from the Plains to Pacific; breeds from Mexico to Manitoba and British Columbia; winters south to Central America.

540. Vesper Sparrow (*Pœcetes gramineus*). L. 5.1. Outer tail-feather mostly white; hind toe-nail not longer than toe; *lesser* wing-coverts reddish brown. *Ads.* Above grayish brown streaked with black and chestnut; below whitish, breast and sides streaked with black and chestnut. *Notes.* Call, *chip.* Song, loud and musical *Look-look, see-see, me-me-me-me-me-me-sing,* followed by a confusion of notes.

Range. Eastern North America; breeds from Virginia, Illinois and Missouri north to New Brunswick and Manitoba; winters from Virginia and southern Illinois to the Gulf of Mexico.

540a. Western Vesper Sparrow (*P. g. confinis*). Similar to No. 540, but paler, less black above; bill somewhat more slender.

Range.—Western United States from the Plains to the Sierra; breeds from Arizona and New Mexico north to the Saskatchewan and British Columbia; winters south into Mexico.

540b. Oregon Vesper Sparrow (*P. g. affinis*). Similar to No. 540a, but smaller, W. 3; bill still more slender; plumage browner, more buffy; browner even than No. 540, the underparts, including belly, suffused with buff.

Range.—Pacific coast; breeds in western Oregon (and north?); winters southwest of the Sierra to San Diego, California.

575. Pine-woods Sparrow (*Peucæa æstivalis*). L. 5.8; T. 2.5. Bend of the wing yellow; outer tail-feathers much shorter than the middle pair. *Ads.* Above reddish chestnut, *head* and back streaked with black and margined with gray; below whitish, breast faintly tinged with buff. *Notes.* Song, exceedingly sweet and plaintive.

Range.—Florida and southern Georgia; winters in southern Florida.

575a. Bachman Sparrow (*P. æ. bachmanii*). Similar to No. 575, but above brighter reddish chestnut, black streaks fewer and usually confined to back; breast and sides deeper buff.

Range.—Lower Mississippi Valley, west to southern Indiana and southern Illinois, east to Georgia, South Carolina, North Carolina, and Virginia (rarely); west to Concho County, Texas; winters south in Atlantic States, to southern Florida.

576. Botteri Sparrow (*Peucæa botteri*). L. 6; T. 2.8. Bend of wing yellow; outer tail-feathers shortest. *Ads.* Above bright rusty brown (about the color of a Field Sparrow), head and back streaked with black and margined with gray; below buffy, the center of the belly whitish. *Notes.* Song, begins with a faint trill followed by a succession of disjointed syllables, *cha, cheewee, wee, wee, wee, wir.* (Henshaw.)

Range. Entire plateau of Mexico north to Lower Rio Grande Valley in Texas and southern Arizona. (Ridgw.)

578. Cassin Sparrow (*Peucæa cassini*). L. 6; T. 2.8. Bend of wing yellow; outer tail-feathers shortest, their ends with distinct *grayish* patches. *Ads.* Above *gray* streaked with *dull* reddish brown and *spotted* or *barred* with black; below grayish white. *Notes.* Song, lengthened and pleasing, usually sung on wing.

Range.—Texas and southern Kansas west to southern Nevada and Arizona south into Mexico.

559.

560.

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584.

559. Tree Sparrow (*Spizella monticola*). L. 6.3 A black spot in the center of the breast. *Ads.* Cap reddish brown, no black on head; two white wing-bars back streaked black, reddish brown and buff; below whitish; upper mandible black, lower yellowish *Notes.* Call, a musical, tinkling, *too-lay-it*, song, "a loud, clear and powerful chant."

Range.—Eastern North America, west to the Plains; breeds in Labrador and region west of Hudson Bay; winters south to South Carolina, Tennessee and Indian Territory.

559a. Western Tree Sparrow (*S. m. ochracea*). Similar to No. 559, but back with much less reddish brown, largely brownish buff streaked with black.

Range.—Western North America east to the Plains; breeds in Alaska; winters south to Mexican border.

560. Chipping Sparrow (*Spizella socialis*). L. 5.3. *Ads.* Crown reddish chestnut, forehead *blackish*; a black line from eye to nape; back streaked with black, *reddish brown* and grayish brown; wing-bars not conspicuous; below grayish white; bill largely black. *Yng.* Crown like back; cheeks brownish. *Notes.* Call, *chip*; song, an unmusical *chippy*, *chippy*, *chippy*, repeated.

Range.—Eastern North America, west to the Plains; breeds from Gulf States to Newfoundland and Great Slave Lake; winters in the Gulf States and Mexico.

560a. Western Chipping Sparrow (*S. s. arizonæ*). Similar to No. 560, but much grayer above; back with little or no reddish brown.

Range.—Western North America; breeds from Mexican border states to Alaska; winters from California and Mexican border states to southern Mexico.

563. Field Sparrow (*Spizella pusilla*). L. 5.6; T. 2.5. Bill entirely pinkish brown. *Ads.* Crown *reddish* brown, a gray line over the eye, a reddish brown stripe from behind it to nape; back *reddish* brown streaked with black; below whitish, *no* streaks, breast washed with buffy; two white wing-bars. *Notes.* Call, *chip*; song, a musical whistle, *cher-wee*, *cher-wee-cher-wee*, *chee-o*, *dee-e-e-e-e*; with many variations but usually ending in a trill.

Range.—Eastern North America; breeds from South Carolina, Alabama and central Texas north to Quebec and Manitoba; winters from Virginia and Illinois to Gulf States.

563a. Western Field Sparrow (*S. p. arenacea*). Similar to No. 563, but much paler above; crown largely grayish; back with but little reddish brown, breast with little or no buff; tail longer, 2.7.

Range.—Great Plains of Interior; breeds from Nebraska and South Dakota to eastern Montana; winters south to northeastern Mexico casually to Louisiana. (Ridgw.)

584. Swamp Sparrow (*Melospiza georgiana*). L. 5.8. *Ads.* Forehead black with a gray median line crown bright chestnut; below grayish white; *sides brownish*, nape gray; back grayish, black, and buff *Yng.* Crown streaked chestnut and black; gray line over the eye sometimes tinged with yellow; other parts deeper in color. *Notes.* Call, a sharp *cheep*; song, a simple *tweet-tweet-tweet*, etc., all on one note.

Range.—Eastern North America, west to the Plains: breeds from New Jersey, Pennsylvania, and northern Illinois, north to Labrador and Manitoba; winters from Kansas, southern Illinois, and Massachusetts to Gulf States.

536. Lapland Longspur (*Calcarius lapponicus*). L. 6.2 Hind toe-nail as long as or longer than toe; two outer tail-feathers with white *at the end*. *Ad.* ♂, *summer*. Nape chestnut; crown, cheeks, throat and upper-breast black; back black margined with *rusty brown*. *Ad.* ♀, *summer*. Crown and back black margined with rusty; nape brighter; below whitish; breast feathers dusky at base; sides streaked with blackish. *Winter*, ♂. Black areas and nape veiled with whitish or buffy tips; ♀, like ♀ in summer.

Range.—Breeds in northern Europe and northeast North America south to northern Labrador; in America, winters south, irregularly, to South Carolina, Kentucky, Kansas, Texas; west to Manitoba. (Ridgw.)

536a. Alaskan Longspur (*C. l. alascensis*). Similar to No. 536, but margins to back feathers much paler, brownish gray or buffy; nape in winter more buffy. *Notes*. Song, uttered on wing as bird with upstretched wings floats downward, sweet, liquid, tinkling, of same general character as that of Bobolink, but shorter, less powerful. (Nelson.)

Range.—Breeds in Alaska, Aleutian and Pribilof Islands east to Fort Simpson; winters south to eastern Oregon, Colorado, and western Kansas. (Ridgw.)

553. Harris Sparrow (*Zonotrichia querula*). L. 7.5. *Ad. summer*. Throat and crown black; nape chestnut, cheeks brownish; two white wing-bars. *Ads. winter*. Throat mottled with white, crown tipped with grayish. *Notes*. A queer, chuckling note; song of pleasing, plaintive whistling notes in musical tone like those of No. 558, but delivered in a different song. (Cooke.)

Range.—Interior of North America; from Illinois west to the Dakotas; in summer, the region west of Hudson Bay (exact breeding range unknown); south in winter to Texas (and Mexico?); accidental in British Columbia, Oregon and California.

565. Black-chinned Sparrow (*Spizella atrogularis*). L. 5.7. Below slaty gray. *Ad.* ♂. Throat and front of face *black*; rest of head and underparts slaty gray, the belly whitish; back reddish brown narrowly streaked with black. *Ad.* ♀, Throat with little or no black; crown washed with brownish. *Yng.* Similar to Ad. ♀, but never with black on throat; crown more heavily washed with brownish. *Notes*. Song said to resemble that of No. 563. (Bailey.)

Range.—Mexico and southwestern United States; breeds from southern New Mexico and southern California southward; winters south into Mexico and southern Lower California.

—English Sparrow (*Passer domesticus*). L. 6.3. *Ad.* ♂. Throat and upper breast black; crown *slate*; band behind eye and on nape chestnut. *Ad.* ♀. Below dirty white; crown and rump dingy grayish brown; back streaked with black and rusty brown; a buffy stripe behind eye. *Yng.* ♂. Similar to Ad. but throat and head tipped with brownish gray. *Notes*. Harsh and discordant.

Range.—Introduced into America from Europe in 1851 and later dates; now distributed throughout the greater part of the United States.

537. Smith Longspur (*Calcarius pictus*). L. 6.6. Hind toe-nail as long as toe; *two* outer tail-feathers mostly white. *Ad.* ♂. *Throat, breast* and belly buff; nape buff; crown and cheeks black; ear-coverts and line over eye white; lesser wing-coverts black margined with white. *Ad.* ♀. Above brownish black margined with buff and rusty brown; below pale buff, sides of breast and flanks streaked with brown. ♂ *in winter.* Like ♀ but lesser wing-coverts black and white. *Notes.* Call constantly *chirrup* as they fly. (Goss.)

Range.—Middle western United States; breeds in northern British America; winters south over the plains and prairies to Texas; east to Illinois.

579. Rufous-winged Sparrow (*Aimophila carpalis*). L. 5.7. Outer tail-feathers shortest. *Ads.* Lesser wing-coverts bright reddish brown; crown reddish brown or chestnut margined with gray; back streaked with black and margined with *grayish brown*; below whitish; *two* black streaks from either side of the base of the lower mandible. *Notes.* Call, *zib, zib, zib.* (Bendire.)

Range.—Southern Arizona, north to Tucson and Camp Lowell and south through Sonora to northern Sinaloa. (Ridgw.)

580. Rufous-crowned Sparrow (*Aimophila ruficeps*). L. 4; T. 2.6. No yellow at bend of wing; outer tail-feathers shortest. *Ads.* Above reddish brown margined with buffy gray (no black streaks); below, including middle of belly, brownish; sides of throat with black lines. *Notes.* Song, very sweet, resembling that of Lazuli Bunting, but distinguishable. (C. A. Allen.)

Range.—Northern Lower California north to Marin County and Sacramento Valley, California; local.

580a. Scott Sparrow (*A. r. scottii*). Similar to No. 580, but above brighter reddish brown, the margins to the feathers grayer, the underparts much paler, the breast grayish, the throat and middle of the belly whitish.

Range. Northwestern portion of Mexican plateau and adjacent portions of Arizona, New Mexico and western Texas (El Paso Co.) (Ridgw.)

580b. Rock Sparrow (*A. r. eremœca*). L. 6. *Ads.* Crown reddish chestnut, back olive-brown margined with gray. Similar to No. 580a, but back of a different color from crown, the grayish margins wider.

Range.—Limestone Hill districts of middle Texas, from Kinney and Maverick counties on the Rio Grande, northeastward to Cook County and westward at least to Tom Green County; south in winter to Mexico. (Ridgw.)

580c. Laguna Sparrow (*A. r. sororia*). Similar to No. 580a, but bill somewhat stouter, reddish brown above averaging brighter and wider.

Range.—Southern Lower California.

548. Leconte Sparrow (*Ammodramus lecontei*), L. 5. No yellow on wing; tail-feathers pointed, outer ones much the shortest. *Ads.* Broad line over eye, throat, breast and sides rich buff; nape chestnut and gray; back black narrowly margined with chestnut and, at the sides, broadly with buff; sides streaked; breast rarely with a few streaks. *Notes.* Call, a thin, sharp, *tweet*, and a long-drawn *bizz*; song, a tiny, husky, *reese, reese.* (Seton.)

Range.—Great Plains and more western prairies; breeding from Dakota, Minnesota, etc., to Manitoba, migrating south and east, in winter, through Illinois, Iowa, Kansas, etc., to South Carolina and Gulf States from Florida to Texas." (Ridgw.)

533. Pine Finch (*Spinus pinus*). L. 5. Bill sharply pointed; a tuft of bristly feathers over the nostril; tail slightly forked. *Ads.* Base of tail, of inner wing-feathers and outer edges of primaries yellow; above brownish; below whitish streaked with black. *Notes.* Call, a metallic note; song, tinkling and musical often sung on the wing as with No. 529, the song of which it resembles.

Range.—North America; breeds from northern boundary states to Alaska; in the Alleghanies south to North Carolina; and in the Rockies and Sierra south to Mexico; winters from the northern states to Gulf states and Lower California.

541. Ipswich Sparrow (*Passerculus princeps*). L. 6.2. *Ads.* Above *pale* brownish gray streaked with brown; below white, breast and sides streaked with *brownish*; spot above eye and bend of wing often pale sulphur yellow. *Notes.* Resemble those of No. 542a.

Range.—Breeds on Sable Island, Nova Scotia, winters south along coast, regularly to Virginia, rarely to Georgia.

549. Sharp-tailed Sparrow (*Ammodramus caudacutus*). L. 5.8. Tail-feathers sharply pointed, outer ones shortest. *Ads.* Below white, breast and sides washed with buff and distinctly *streaked with black*; nape olive-green; cheeks orange-buff; ear-coverts gray; crown olive-chocolate with a blue-gray central line; back olive, buff, black and gray. *Notes.* Call, *chip*; song, an unmusical, short, "husky," "gasping" effort, uttered from a perch or on fluttering wings above the reeds.

Range.—Atlantic coast: breeds from South Carolina to New Hampshire; winters from North Carolina to Florida.

549.1. Nelson Sparrow (*Ammodramus nelsoni*). L. 5.5. Tail-feathers pointed, outer ones shortest. *Ads.* Similar to No. 549, but breast and sides much deeper buff, the former with few or no streaks; upperparts more richly colored. *Notes.* Resemble those of No. 549.

Range.—Breeds in interior from northern Illinois to Manitoba and South Dakota; migrates east to New York and winters south to South Carolina and Texas; accidental in California.

549.1a. Acadian Sharp-tailed Sparrow (*A. n. subvirgatus*). Similar to No. 549.1, but breast and sides paler, the former lightly but distinctly streaked with grayish; upperparts less richly colored.

Range.—Atlantic coast; breeds in marshes of eastern Maine, southern New Brunswick, and Prince Edward Island; winters south to South Carolina.

550. Seaside Sparrow (*Ammodramus maritimus*). L. 6: W. 2.5. Tail-feathers pointed, the outer ones shortest; spot before eye and bend of wing yellow. *Ads.* Above olive-green and gray (no black); below white, breast and sides grayish and, in first plumage, streaked with buff. *Notes.* Similar in character to those of No. 549.

Range.—Atlantic coast; breeds in salt marshes from North Carolina to southern Massachusetts; winters from Virginia to Georgia.

550a. Scott Seaside Sparrow (*A. m. peninsulæ*). Similar to No. 550, but smaller, W. 2.3; above black margined by olive-brown and olive-green; below whitish, breast and sides heavily streaked with blackish.

Range.—Atlantic coast from northeastern Florida to South Carolina; Gulf Coast of Florida.

550b. Texas Seaside Sparrow (*A. m. sennetti*). Similar to No. 550, but greener above; the feathers of head and back usually, those of nape always, with black centres.

Range.—Coast of Texas.

550c. Fisher Seaside Sparrow (*A. m. fisheri*). Similar to No. 550a, but darker above, the breast and sides heavily washed with rusty buff and streaked with black.

Range.—Coast of Louisiana, south in winter, at least as far as Corpus Christi, Texas; casual on Gulf coast of Florida.

550d. Macgillivray Seaside Sparrow (*A. m. macgillivrayi*). Similar to No. 550c, but above grayer, less black, breast and flanks but faintly washed with buff and streaked with dusky grayish. Grayer above than No. 550a, and less heavily streaked below.

Range.—Local on coast of South Carolina.

551. Dusky Seaside Sparrow (*Ammodramus nigrescens*). L. 5.9. Above *black* lightly margined with gray; below white heavily streaked with black; spot before eye and bend of wing yellow. *Notes.* Similar in character to those of No. 550.

Range.—Marshes at head of Indian River, Florida, from Banana River to Haulover Canal.

583. Lincoln Sparrow (*Melospiza lincolnii*). L. 5.7. *Ads. A broad buff band across the breast*; center of crown with a *gray* stripe, its sides striped chestnut and black; back grayish brown streaked with black and chestnut, below streaked with black except on middle of white belly. *Notes.* Call, a sharp chirp; song, suggests bubbling, guttural notes of House Wren combined with rippling music of the Purple Finch. (Dwight.) (See, also, Brewster, Bird-Lore II, P. 111.)

Range.—North America; breeds from northern New York, northern Illinois and higher parts of Rockies and Sierra north to Alaska; winters from southern Illinois and southern California into Mexico; rare east of Alleghanies.

583a. Forbush Sparrow (*M. l. striata*). Similar to No. 583, but browner above, crown-stripe and line over eye more brown than gray.

Range.—Pacific coast from British Columbia to California; breeding range unknown.

542. Sandwich Sparrow (*Passerculus sandwichensis*). L. 5.7; W. 2.9 A yellow line from the bill passing *over* the eye; bend of wing usually tinged with yellow. *Ads.* Above streaked with black, chestnut and brownish gray; below white, (buffy in fall and winter), breast and sides streaked with black, the streaks narrowly margined with chestnut. *Notes.* Doubtless resemble those of No. 542a.

Range.—Northwest coast; breeds in western Alaska; winters south to northern California.

542a. Savanna Sparrow (*P. s. savanna*). Similar to No. 542, but smaller, W. 2.7; yellow line over eye shorter and less pronounced; bill smaller. *Notes.* Call a sharp *tsip*, frequently uttered; song, a weak, musical little trill following a grasshopperlike introduction, *tsip, tsip, tsip, sē-e-e-s'r-r-r.* (Dwight.)

Range.—Eastern North America, west to the Plains; breeds from northern New Jersey (rarely), eastern Long Island, and Missouri north to Labrador and western Hudson Bay; winters from Virginia and southern Illinois to Cuba and Mexico.

542b. Western Savanna Sparrow (*P. s. alaudinus*). Similar to No. 542a, but bill more slender, color averaging paler, the yellow line not passing *over* the eye, less evident before it and often wholly wanting.

Range.—Western North America from the Plains west to the Sierra; breeds from Mexico City north to Alaska; winters from southern California southward.

542c. Bryant Marsh Sparrow (*P. s. bryanti*). Similar to No. 542b, but smaller, W. 2.6; colors much darker, streaks below heavier; yellow over eye more pronounced. A darker bird even than No. 542a, but with the bill slender as in No. 542b.

Range.—Resident in salt marshes about San Francisco and Monterey Bay; winters south to San Pedro (Grinnell); casually to Mexico City. (Ridgw.)

543. Belding Sparrow (*Passerculus beldingi*). L. 5; W. 2.5. *Ads.* Similar to No. 542c, but somewhat smaller, above darker and with a slight olive caste; underparts more heavily streaked.

Range.—Pacific Coast; salt marshes from Todos Santos Island, Lower California, north to Santa Barbara.

544. Large-billed Sparrow (*Passerculus rostratus*). L. 5.5; W. 2.6. Bill stout, upper mandible *curved*; no yellow before eye or on bend of wing. *Ads.* Above grayish brown marked with brown and blackish but *without* well-defined streaks; below white, breast and sides streaked with grayish brown, the streaked feathers centrally blackish.

Range.—Coast of southern California north to Santa Barbara; winters south to Cape St. Lucas and northwestern Mexico.

544a. St. Lucas Sparrow (*P. r. guttatus*). Similar to No. 544, but smaller, W. 2.5; bill more slender; upperparts brownish gray with an *olive tint* and streaked with darker; similar to No. 544c, but smaller, upperparts more olive and more widely, but less sharply streaked.

Range.—Cape Region of Lower California in winter; breeding range unknown.

544b. Lagoon Sparrow (*P. r. halophilus*). Similar to No. 544a, but larger, W. 2.7, and darker; streaks on chest with little if any brown edging; differing from No. 543, in more uniform coloration of upperparts, in less narrow and decidedly blackish streaks on chest, etc.

Range.—Salt marshes, Abreojos Point, Lower California.

544c. San Benito Sparrow (*P. r. sanctorum*). Similar to No. 544, but bill more slender; above grayer (brownish *gray*) distinctly streaked with blackish, the streaks margined with brown; below streaked with *black*, the streaks narrowly margined with brownish.

Range.—Breeds on San Benito Island, Lower California; in winter to Cape Region of Lower California.

545. Baird Sparrow (*Coturniculus bairdii*). L. 5.7. Tail-feathers pointed, middle ones shortest, *Ads.* Crown yellowish brown, streaked with black; back black margined with chestnut and grayish; below whitish, breast and sides streaked with black. In fall and winter, colors richer. *Notes.* Song, "*trick-e-trik-eeeee-chiky-le-roit*, with a peculiar tinkling utterance."

Range.—Great Plains; breeds from western Minnesota, North Dakota, eastern Montana, north to Manitoba and Assiniboia; winters south to Texas, Arizona and New Mexico. (Ridgw.)

546. Grasshopper Sparrow (*Coturniculus savannarum passerinus*). L. 5.3. Line before eye orange; bend of wing yellow; tail-feathers pointed. *Ads.* Crown black with a buffy central stripe; nape *chestnut and gray*; back black, chestnut buff and gray; below buffy, unstreaked, belly whiter. *Notes.* Call, a sharp *chip*; song, a weak, insect-like *pit-tuck, zee-e-e-e-e-e-e.*

Range.—Eastern North America, west to the Plains; breeds from the Gulf States to Massachusetts, Vermont, and Minnesota; winters from North Carolina to Cuba and Mexico.

546a. Western Grasshopper Sparrow (*C. s. bimaculatus*). Similar to No. 546, but paler below and with less black and more chestnut above.

Range.—Western United States from the Plains to the Pacific; breeds from Mexican border states north to Montana and British Columbia; winters south into Mexico.

546b. Florida Grasshopper Sparrow (*C. s. floridanus*). Similar to No. 546, but smaller, W. 3; darker above, paler below; sides of crown almost solid black; chestnut above largely replaced by black.

Range.—Kissimmee Prairies, Florida.

547. Henslow Sparrow (*Ammodramus henslowii*). L. 5. Bend of wing yellow; tail-feathers pointed, the outer ones much the shortest. *Ads.* Crown and nape pale *olive-green* streaked with blackish; back bright reddish brown streaked with black and gray; below white; breast and sides washed with buff and streaked with black. *Notes.* Call, *tee-wick*; song, *sis-r r rit-srit-srit.* (Jouy.)

Range.—Eastern North America; breeds locally, from Virginia and Missouri, north to New Hampshire, southern Ontario and Minnesota; winters from Virginia and Missouri south to the Gulf of Mexico.

547a. Western Henslow Sparrow (*A. h. occidentalis*). Similar to No. 547, but paler, in summer little or no buff below.

Range.—Central western states; breeding, so far as known, in South Dakota; in winter south to Texas.

EASTERN SONG SPARROW GROUP.

581. Song Sparrow (*Melospiza cinerea melodia*). L. 6.2. *Ads.* Above reddish brown and gray with black streaks; tail with a decided rufous tinge; black streaks below conspicuously margined with reddish brown, those of center of breast forming a patch. *Notes.* Call, a characteristic *chimp* or *trink*; song, too variable in form to admit of brief description but unmistakable in tone throughout the whole group.

Range.—Eastern North America west to the Plains; breeds from Virginia and northern Illinois north to Quebec and Manitoba; winters from southern Illinois and Massachusetts to Gulf States.

581b. Mountain Song Sparrow (*M. c. montana*). Similar to No. 581, but grayer; reddish brown not so bright; bill smaller.

Range.—Rocky Mountain district of United States west to, and including Sierra Nevada in California; north to eastern Oregon, southern Idaho, and southern Montana; south in winter to western Texas and northern Mexico. (Ridgw.)

581k. Merrill Song Sparrow (*M. c. merrilli*). Similar to No. 581b, but slightly darker and more uniform above, with grayish edgings to interscapulars and scapulars less strongly contrasted with the darker mesial streaks, the latter usually with more brown than black. (Ridgw.)

Range.—Breeds from northern California (Shasta County) in mountains and through Oregon and Washington east of Cascade Mountains, to northwestern Idaho; winters south into Mexico. (Ridgw.)

581j. Dakota Song Sparrow (*M. c. juddi*). Similar to No. 581, but above paler, especially line over eye and sides of neck; white below clearer; interscapulars with black center broader, reddish brown portions narrower; dark markings on breast restricted and more sharply defined. (Bishop.)

Range.—"Turtle Mountains and vicinity, North Dakota." (A. O. U.)

DESERT SONG SPARROWS.

581a. Desert Song Sparrow (*Melospiza cinerea fallax*). W. 2.5. Above reddish brown and gray; below white with *reddish brown* streaks; usually *no black* in plumage.

Range.—Lower Sonoran district of southwest Arizona, southern Nevada, southeast California and northwest Lower California and Sonora. (Ridgw.)

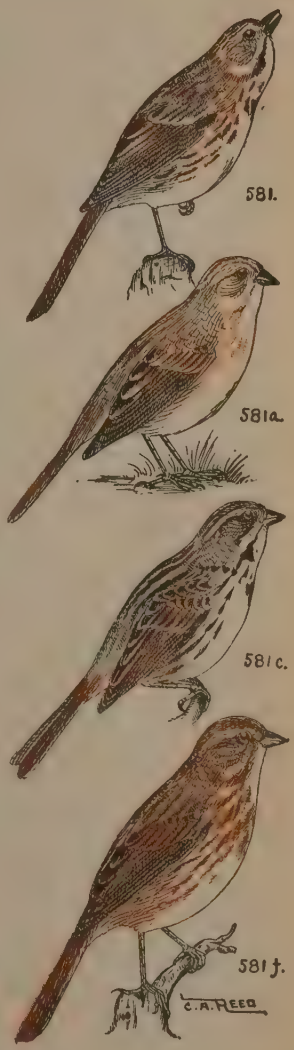
581g. Brown Song Sparrow (*M. c. rivularis*). Similar to No. 581a, but larger, W. 2.7, with longer, more slender and more compressed bill; still less strongly contrasted markings, and duller, less rufescent colors. (Ridgw.)

Range.—Mountain districts of southern Lower California. (Ridgw.)

CALIFORNIA SONG SPARROWS.

581c. Heermann Song Sparrow (*Melospiza cinerea heermanni*). L. 6.5; W. 2.5. *Ads.* Above *chestnut* olive-gray with usually distinct black streaks; tail *without* a decided rufous tinge; black streaks below not conspicuously bordered by rufous.

Range.—Central valleys of California including lower levels of Sacramento and San Joaquin basins. (Ridgw.)



582.

CALIFORNIA SONG SPARROWS.

581m. San Diego Sparrow (*M. c. cooperi*). Similar to No. 581c, but slightly smaller, W. 2.4, much lighter and grayer.

Range.—Southern coast district of California north to Monterey Bay, east to Ft. Tejon, San Bernardino, etc., and north Pacific coast district of Lower California south to San Quentin Bay. (Ridgw.)

581d. Samuels Song Sparrow (*M. c. samuelis*). Similar to No. 581c, but smaller, W. 2.4, bill more slender.

Range —Coast slope of central California (except salt marshes of San Francisco Bay), from Santa Cruz County to Humboldt County, north, at least in winter, to Humbolt Bay. (Ridgw.)

581 l. Alameda Song Sparrow (*M. c. pusillula*). Similar to No. 581a, but smaller, W. 2.3, less rusty, underparts more heavily streaked, usually more or less suffused with *yellowish*.

Range.—Salt marshes of San Francisco Bay, California. (Ridgw.)

581i. San Clemente Song Sparrow (*M. c. clementæ*). Similar to No. 581m, but larger and grayer.

Range.—San Clemente, San Miguel, and Santa Rosa Islands, Santa Barbara Group, California; Coronados Islands, Lower California. (Ridgw.)

581h. Santa Barbara Song Sparrow (*M. c. graminea*). Similar to No. 581i, but much smaller, W. 2.4.

Range.—Santa Barbara Islands, California mainland in winter.

NORTHWEST COAST SONG SPARROWS.

581e. Rusty Song Sparrow (*M. c. morphna*). W. 2.7. *Ads.* Above without clear gray and *not* distinctly streaked; prevailing color dark reddish brown; below *heavily* streaked with same.

Range. Northwest coast region, Oregon to British Columbia; south in winter to southern California.

581f. Sooty Song Sparrow (*M. c. rufina*). Similar to No. 581e, but larger, W. 2.9, more sooty above and below, underparts more heavily streaked,

Range.—Pacific coast region from British Columbia north to southern Alaska.

581n. Yukutat Song Sparrow (*M. c. caurina*). Similar to No. 581f, bill longer and more slender, color grayer.

Range.—Coast of Mt. St. Elias district of Alaska, from Yakutat Bay to Lituya Bay.

581o. Kenai Song Sparrow (*M. c. kenaiensis*). Similar to No. 582, but smaller, W. 3, plumage darker, more sooty, less rufous.

Range.— Coast of Kenai Peninsula, Alaska, from east side of Cook Inlet to Prince William Sound. (Ridgw.)

581.1. Kadiak Island Song Sparrow (*M. c. insignis*). Similar to No 5810, but larger, W. 3.2, bill longer, color grayer.

Range.—Kadiak Island and opposite coast of Alaska. (Ridgw.)

582. Aleutian Song Sparrow (*Melospiza cinerea*). Similar to No. 581.1, but larger and grayer; largest and grayest bird of group; L. 8; W. 3.4.

Range.—"Western portion of Alaska Peninsula (Stepovak Bay, opposite Shumagin Islands), Shumagin Islands, and Aleutian Islands, from Unalaska to Atka, Adak, and Attu." (Ridgw.)

554. White-crowned Sparrow (*Zonotrichia leucophrys*). L. 6.9. No yellow before eye. *Ads.* White stripe over eye *not* reaching to bill; lores black; breast gray, throat but little paler; back *gray* streaked with brown, rump browner, *Yng.* Black crown-stripes replaced by chestnut, the white ones by buff; back much browner, no gray. *Notes.* Call, a sharp *chip*; song, a plaintive, musical whistle usually of five or six notes, the first two longest.

Range.—North America; breeds from northern New England and (in the higher Rockies and Sierra) New Mexico, Arizona, and California north to Labrador and Hudson Bay region; winters from southern United States into Mexico.

554.

554a. Intermediate Sparrow (*Z. l. gambeli*). Similar to No. 554, but the lores wholly gray or whitish, the white line over the eye reaching the bill.

Range.—Western North America; breeds from Montana and eastern Oregon northeast of Coast Mountains, to lower Mackenzie and northern Alaska; winters from southern United States into Mexico; casual in migrations east to Mississippi River States.

554 a.

554b. Nuttall Sparrow (*Z. l. nuttalli*). Similar to No. 554a, but smaller, L. 6.5, margins to feathers of back browner, underparts browner, bend of wing yellow.

Range.—"Pacific coast district, breeding from Monterey, California, to Mt. Simpson, British Columbia, south in winter to San Pedro Martir Mountains, Lower California." (Ridgw.)

557. Golden-crowned Sparrow (*Zonotrichia coronata*). L. 7.2. *Ad.* ♂. Center of crown yellow, its sides black; below grayish white, sides brownish; back brown streaked with black; two white wing-bars; bend of wing yellow. *Ad.* ♀. Crown like back; its front tinged with yellow; breast washed with brownish.

Range.—Pacific coast; breeds in Alaska; winters from Oregon south to northern Lower California.

557.

558.

558. White-throated Sparrow (*Zonotrichia albicollis*). L. 6.7. A yellow mark before the eye and on bend of wing. *Ads.* Crown black, a narrow white stripe through its center and bounded by white *behind* the eye; throat white sharply defined from *gray* breast; back *reddish brown* streaked with black. *Yng.* Less yellow before eye, crown browner, its stripe gray; throat grayer, sometimes like breast. *Notes.* Call, a low *tseep*, and sharp *chink*; song, a musical, clearly whistled *sow-wheat peverly, peverly, peverly;* or *peabody, peabody, peabody.*

Range.—Eastern North America, west to the Plains, casually to the Pacific; breeds from Massachusetts (locally), northern New York, northern Michigan, and eastern Montana, north to Labrador and West Hudson Bay region; winters from Massachusetts (rarely) and Illinois south to the Gulf.

561. Clay-colored Sparrow (*Spizella pallida*). L. 5.4. No reddish brown. *Ads.* Above grayish *brown* streaked with black; sides of crown *largely black*, a grayish line through its center; sides of head *brownish*; below white. *Notes.* Song, three notes, and a slight trill. (Coues.)

Range.—Interior of North America, from Illinois to the Rockies; breeds from eastern Colorado, and northwestern Illinois north to Saskatchewan; winters from southern Texas into Mexico.

562. Brewer Sparrow (*Spizella breweri*). L. 5.4. *No* reddish brown. *Ads.* Back and *crown* brownish *gray*, uniformly and narrowly streaked with black; sides of head *grayish*; below white. Grayer than No. 561, the sides of the crown *not* largely black. *Notes.* Call, *chip*; song, a reedy warble resembling in tone that of a Long-billed Marsh Wren.

Range.—Western United States, from the Rockies to central California; breeds from Mexican border States north to British Columbia; winters from southern California south into Mexico.

574. Bell Sparrow (*Amphispiza belli*). L. 6.1; W. 2.7. *Ads.* Sides of throat with black streaks; center of breast with black spots; above grayish *brown*, usually *without* distinct streaks, no white in tail.

Range.—Pacific coast, from northern Lower California northwest of Sierras, to Warren county, California; resident.

574a. Sage Sparrow (*A. b. nevadensis*). Similar to No. 574, but larger, W. 3.1; back brownish gray, usually finely but distinctly streaked with black; less black at sides of throat, usually a white stripe *over* the eye. *Notes.* Call, a chipping twitter; song, feeble, but sweet and sad. (B. B. & R.)

Range.—Great Basin region; breeds from New Mexico, Arizona, and southeastern California north to Idaho and eastern Oregon; winters south to western Texas and southern California.

574b. Gray Sage Sparrow (*A. b. cinerea*). Similar to No. 574, but paler above, throat-stripes narrower, more interrupted, breast-spot smaller, both stripes and spot dull grayish instead of blackish. (Ridgw.)

Range.—Lower California.

564. Worthen Sparrow (*Spizella worthenі*). Resembles No. 563a, but sides of head plain gray, no brownish streak behind eye; tail shorter, 2.5.

Range.—Southern New Mexico (Silver City), southward over eastern border of Mexican plateau to southern Puebla; breeding from Tamaulipas northward. (Ridgw.)

702. Sage Thrasher (*Oroscoptes montanus*). L. .7. *Ads.* Above brownish gray; below whitish eavily streaked with blackish; outer tail-feathers pped with white. *Notes.* Call, a low chuck; song, efficient in power but possessing sweetness, vivacity nd variety; resembling song of Ruby-crowned King-t. (Ridgway.)

Range.—Western United States from western South Dakota, west-rn Nebraska and eastern Colorado, north to Montana, west to the ascades and Sierra Nevada, south into northern Mexico and Lower alifornia. (A. O. U.)

705. Brown Thrasher (*Toxostoma rufum*). L. 11.5; V. 4.1; B. .95. *Ads.* Above, wings and tail rufous r rusty brown; below white heavily streaked with lackish; two white wing-bars. *Notes.* Calls, a sharp issing note and a clearly whistled *wheéu*; song, loud, nusical, varied, finished and rich in tone.

Range.—Eastern North America; breeds from the Gulf States north Maine and Manitoba; winters from Virginia and the lower Mississ-pi Valley southward.

706. Sennett Thrasher (*Toxostoma longirostre sennetti*). L. 11.5; W. 4; B. 1.1. *Ads.* Similar to No. 05, but wing shorter, bill longer, upperparts less right, streaks below blacker. *Notes.* Resemble those f No. 705, but song even finer.

Range.—Southeastern Texas from Corpus Christi south into north-astern Mexico.

713? Texan Cactus Wren (*Heleodytes brunneicapillus couesi*). L. 8.5. Largest of our Wrens. *Ads.* Above brown, head darker, back streaked with white; below, *including chin*, heavily marked with black. *Notes.* A loud, harsh *cack-cack-cack-cack.*

Range.—"Rio Grande region of Texas and adjoining Mexican tates, west to the eastern Desert Tract, south over the Mexican abieland." (Mearns.)

713a. Bryant Cactus Wren (*H. b. bryanti*). Dif-ers from No. 713b, in heavier spotting below, and in erfectly barred tail and slight wash of rufous on belly nd flanks. (Anthony.)

Range.—"Northern Lower California and southern California, west f the Coast Range." (Mearns.)

713b. St. Lucas Cactus Wren (*H. b. affinis*). Re-embling No. 713c, but all the tail-feathers, except niddle pair, barred with white for their whole length; lanks white or very pale buff, with large rounded or ear-shaped spots. (Ridgw.)

Range.—Southern Lower California.

713c? Desert Cactus Wren (*H. b. anthonyi*). Sim-lar to No. 713, but paler above; chin *without* spots.

Range.—Interior deserts of the southwestern United States, south nto Mexico and northeastern Lower California. (Mearns.)

755. Wood Thrush (*Hylocichla mustelina*). L. 8.2. *Ads.* Above bright cinnamon, *brightest on head*; below white with *large*, *rounded* black spots. *Notes.* Calls, a sharp *pit-pit*, a liquid *quirt*, and a soft *tut tut-tut*; song, both flute-like and bell-like; sung with fre-quent pauses and low notes.

Range.—Eastern United States; breeds from Virginia and Kansas to Vermont, Quebec, and Minnesota; winters in Central America.

715

715. Rock Wren (*Salpinctes obsoletus*). L. 5.7. *Ads.* Rump rusty; tail tipped and *outer* feathers barred with pale rusty; above grayish brown lightly speckled with blackish; below, including belly, whitish; breast obscurely streaked with brownish. *Notes.* Calls, Wren-like; song, sweet, varied and Mockingbird-like.

Range.—"Western United States, from the western border of the Plains to the Pacific, north to Dakota, Montana, and British Columbia; south on the tablelands of Mexico and Guatemala to Salvador; breeds throughout its range, and is resident from about the southern border of the United States southward." (A. O. U.)

716. Guadalupe Rock Wren (*Salpinctes guadeloupensis*). Resembling No. 715, but darker and browner, with chest, etc., more distinctly speckled; wings and tail shorter; bill and tarsi longer; W. 2.6; T. 2.2. (Ridgw.)

Range.—Guadalupe Island, Lower California.

717

717. White-throated Wren (*Catherpes mexicanus albifrons*). L. 6; W. 2.7. *Ads. Belly*, rump, and *all* tail-feathers rusty; tail barred with black; throat white; back rusty brown.

Range.—Lower Rio Grande Valley in Texas and southward into northeastern Mexico.

717a. Canon Wren (*C. m. conspersus*). Similar to No. 717, but smaller, W. 2.3; tail-bars narrower. *Notes.* Call, a "ringing *dink*;" song, a series of about seven, loud, ringing whistles uttered in a regularly descending scale.

Range.—"Great Basin and Rocky Mountain region, from the Sierra Nevada and Cascades eastward to southern Idaho, Wyoming, Colorado and western Texas; south on the tableland of Mexico to Aguas Calientes; breeds nearly throughout its range; resident in southern parts of its United States distribution." (A. O. U.)

717b. Dotted Canon Wren (*C. m. punctulatus*). Similar to No. 717a, but darker; more nearly resembling No. 717 in colors, but smaller in size.

Range.—Pacific coast from Lower California north to Oregon; resident.

718

718. Carolina Wren (*Thryothorus ludovicianus*). L. 5.5; W. 2.3; B. .6. *Ads.* Above bright rust-brown; below washed with same, throat and line over eye white. *Notes.* Calls, Wren-like; song, a great variety of loud, musical whistles, *whee-udel, whee-udel, whee-udel* or *tea-kettle, tea-kettle, tea-kettle*, etc.

Range.—Eastern United States; breeds from the Gulf States north to the lower Hudson Valley (and casually Massachusetts), northern Illinois, and southern Iowa; resident.

718a. Florida Wren (*T. l. miamensis*). Similar to No. 718, but darker above, more deeply colored below; larger, W. 2.4; B. .7.

Range.—Florida, from Pasco and Brevard counties southward.

718b. Lomita Wren (*T. l. lomitensis*). Similar to No. 718, but browner, less rufous above, rump with more white spots; below paler, the flanks usually barred.

Range. Southeastern Texas.

585. Fox Sparrow (*Passerella iliaca*). L. 7.2. Back *streaked*, gray and reddish brown; tail and spots below bright reddish brown. *Notes.* Call, a weak *tseep*; song, loud, sweet, varied, ringing and joyous.

Range.—Eastern North America; breeds from Magdalen Islands and Manitoba, northwest to Alaska; winters from Virginia to the Gulf States.

585a. Shumagin Fox Sparrow (*P. i. unalaschensis*). Back *not* distinctly streaked, much paler than No. 585; spots below grayish brown; palest of present group.

Range.—Alaska, Shumagin Islands, and Alaskan Peninsula to Cook Inlet.

—**Kadiak Fox Sparrow** (*P. i. insularis*). Similar to No. 585a, but browner above and below; tail nearly same as back; breast spots larger.

Range.— 'Kadiak Island, Alaska, in summer; in winter south along the coast slope to southern California." (Ridgw.)

—**Sooty Fox Sparrow** (*P. i. fuliginosa*). *Ads.* Above, including wings and tail, uniform brownish umber, *unstreaked*; below heavily spotted with same.

Range.—Coast of British Columbia and northwest Washington; south in winter to San Francisco, California. (Ridgw.)

—**Townsend Fox Sparrow** (*P. i. townsendi*). Similar to *fuliginosa* but more rufous.

Range. Southern Alaska north to Cross Sound; south in winter to northern California. (Ridgw.)

—**Yakutat Fox Sparrow** (*P. i. annectens*). Similar to *townsendi* but less rufous; very near *fuliginosa*, but not quite so deeply colored.

Range.—Coast of Alaska, from Cross Sound to Prince William Sound (to Cook Inlet?); in winter, south to California. (Ridgw.)

585b. Thick-billed Sparrow (*P. i. megarhyncha*). L. 7.3; W. 3.3; depth of B. at base, .4. *Ads.* Above and spots below *gray*; wings and tail light brown; bill large. *Notes.* Song, resembles that of No. 585, but is recognizably different.

Range.—Breeding in the Sierra Nevada (both slopes) from Mt. Shasta southward; in winter beyond Sierras as far as Los Angeles County, California. (Ridgw.)

585c. Slate-colored Sparrow (*P. i. schistacea*). Similar to No. 585b, but smaller, bill smaller; W. 3.2; depth of B. at base, .35.

Range.—Rocky Mountain district of United States and British Columbia; breeds from more eastern ranges of Colorado west to White Mountains in southeastern Colorado, mountains of northeastern California and eastern Oregon; north to interior of British Columbia; in migrations, New Mexico, Arizona, western slopes of Sierra Nevada, western Kansas. (Ridgw.)

585d. Stephens Sparrow (*P. i. stephensi*). Similar in coloration to No. 585b, but larger, the bill conspicuously so; W. 3.4; depth of B. at base .6. (Ridgw.)

Range.—Breeding on San Bernardino and San Jacinto Mountains; southern California. (Ridgw.)

674. Oven-bird (*Seiurus aurocapillus*). L. 6.1. *Ads.* No wing-bars; no white in tail; above brownish olive-green; crown orange-brown bordered by black; below white streaked with black. *Notes.* Call, a weak *cheep*; song, a crescendo *teacher* repeated about five times; also a wild, ecstatic flight song.

Range.—Eastern North America, west to the Rockies; breeds from Virginia and Kansas north to Labrador and northwest to Alaska; winters from Florida south to West Indies and Central America. (Said to breed in Bahamas.)

675. Water-Thrush (*Seiurus noveboracensis*). L. 6; W. 3. A whitish line over eye; above olive; below pale *sulphur yellow* heavily streaked with blackish; *throat spotted*; no wing-bars or tail-patches. *Notes.* Call, a sharp *chink*; song, a high-pitched, liquid whistle, *sweet, sweet, sweet, chu-chu-wee chu.* (Jones.) Also a flight song.

Range.—Eastern North America; breeds from northern New England and northern Illinois, north to Newfoundland and Hudson Bay, and south along the Alleghanies to West Virginia; winters from Florida to northern South America.

675a. Grinnell Water-Thrush (*S. n. notabilis*). Similar to No. 675, but larger, W. 3.1; upperparts darker, less olive; underparts less yellow.

Range.—Western North America; breeds from Minnesota, western Nebraska, and probably more northern Rocky Mountain district of United States, north to Alaska; winters from southern United States southward; in migration east to Mississippi valley, rarely to Atlantic States from New Jersey southward.

676. Louisiana Water-Thrush (*Seiurus motacilla*). L. 6.2. *Ads.* A *white* line over eye; above grayish olive; below *buffy* white; breast and sides streaked; *no* spots on throat; no wing-bars or tail-patches. *Notes.* Call, a sharp, metallic *chink*; song, a sudden outburst of loud wild, ringing notes; also a flight song.

Range.—Eastern United States; breeds from Gulf States to Connecticut, lower Hudson Valley, and Minnesota; winters in tropics.

697. American Pipit: Titlark (*Anthus pensilvanicus*). L. 6.4. Hind toe-nail much the longest. *Ads.* Outer tail-feather largely white; next one only tipped with white; upperparts grayish brown indistinctly streaked; underparts rich buff, breast and *sides* streaked with blackish. *Yng. and Ads. in Winter.* Less gray above, paler below. *Notes.* Call, a soft *dee-dee* usually uttered in flight; a flight song.

Range.—North America breeding in Arctic regions and in the higher parts of the Rockies from Colorado northward (also on Mt. Shasta?); winters from southern California, Nevada and Gulf States south through Mexico to Central America.

700. Sprague Pipit (*Anthus spragueï*). L. 6.2. Hind toe-nail much lengthened; two outer tail-feathers *largely* white. *Ads.* Above streaked with buff and blackish brown; below white tinged with buff; breast streaked. In winter, similar, but less brown above, less buff below. *Notes.* Song, uttered on the wing when several hundred feet above the earth, sweet and far reaching, resembling at beginning song of Skylark.

Range.—"Interior plains of North America, breeding from plains of the Yellowstone northward to Saskatchewan district and from the Red River westward (probably to the Rocky Mountains); south in winter on the tablelands of Mexico to Puebla; accidental in South Carolina."

719. Bewick Wren (*Thryomanes bewickii*). L. 5; W. 2.2, T. 2.1. *Ads.* Above rich, dark cinnamon-brown, tail grayer; below grayish white; all but middle pair of tail-feathers *black*, outer ones barred, others tipped with grayish. *Notes.* Call, "a soft, low, *plit*;" song, strongly suggesting that of Song Sparrow.

Range.—Mississippi Valley west to the Plains, north to Lat. 40°, east to Alleghanies and locally to Atlantic States from southern New Jersey to Georgia.

719a. Vigors Wren (*T. b. spilurus*). Similar to No. 719, but smaller, W. 2; upperparts less cinnamon or reddish.

Range.—California, west of Sierra Nevada and south to Santa Cruz Island. (Bailey.)

719b. Baird Wren (*T. b. leucogaster*). Similar to No. 719c, but upperparts grayer.

Range.—"Western Texas to southeastern California, and from southern Nevada Utah, and Colorado south over tablelands of Mexico to Zacatecas." (Bailey.)

719c. Texas Bewick Wren (*T. b. cryptus*). Similar to No. 719, but gra er, brown of upperparts not so rich; slightly larger, W. 2.3.

Range.—"Texas, except the extreme western corner, states of Nuevo Leon and Tamaulipas, in Mexico, with probably Kansas, Indian Territory and Oklahoma; migratory north of Texas." (Oberholser.)

719.

719d. Southwest Bewick Wren (*T. b. charienturus*). Similar to No. 719b but flanks and upper surface darker, eye-stripe rather broader, under tail-coverts more heavily barred, wing shorter, 2. (Oberholser.)

Range.—Coast region of southern California, north to about Pasadena, south to Lat. 28°, Lower California, Santa Catalina Island; resident. (Oberholser.)

729e. Northwest Bewick Wren (*T. b. calophonus*). Similar to No. 719a, but bill larger, upper surface usually rather deeper and richer brown, flanks somewhat more rufescent; W. 2.1; B..6. (Oberholser.)

Range.—Pacific slope from Oregon north to southern Vancouver Island, valley of the Fraser River, and slightly farther along the mainland coast; probably resident. (Oberholser.)

719.1. San Clemente Wren (*Thryomanes leucophrys*) Similar to No. 719d, but flanks and upperparts rather grayer and paler, bill longer, under tail-coverts less heavily barred. (Oberholser.)

Range.—San Clemente Island, California.

720. Guadalupe Wren (*Thryomanes brevicauda*). L. 4.5; W. 1.9. *Ads.* Resembling No. 719a, but rump with few or no concealed white spots; tail dull grayish brown, narrowly and indistinctly barred with dusky, two or three outer feathers with brownish gray tips. (Ridgw.)

Range.—Guadalupe Island, Lower California.

721.

722.

721. House Wren (*Troglodytes aëdon*). L. 4.7; T. 1.7. *Ads.* Above cinnamon brown, sometimes obscurely barred; tail the same, *all* the feathers barred; below grayish with a brownish wash, lower belly and flanks usually more or less barred. *Notes.* Call, a scolding *krrring*; song, a bubbling, rippling, irrepressible little melody.

Range.—Eastern North America; breeds north to Maine, Montreal, and Manitoba; winters from South Carolina and the Lower Mississippi Valley southward into Mexico.

721a. Parkman Wren (*T. a. parkmanii*). Similar to No. 721, but less cinnamon above; intermediate in color between No. 721 and No. 721b.

Range.—Pacific coast; breeds from southern California north to British Columbia; winters from southern California southward.

721b. Western House Wren (*T. a. aztecus*). Similar to No. 721, but much grayer above and paler below; back more frequently barred.

Range.—Western United States from the Sierra Nevada east to the Mississippi Valley; winters south into Lower California and Mexico.

722. Winter Wren (*Olbiorchilus hiemalis*). L. 4; T. 1.2. *Ads.* Above cinnamon, much brighter than in No. 721; below pale cinnamon, sides and belly heavily barred with blackish. *Notes.* Call, *chimp-chimp*, resembling call of Song Sparrow; song, tinkling, rippling, full of trills, runs and grace notes. (Bailey.)

Range.—Eastern North America; breeds from northern New England and northern New York northward, and southward along the Alleghanies to North Carolina; winters from Massachusetts and Illinois to Florida.

722a. Western Winter Wren (*O. h. pacificus*) Similar to No. 722, but much deeper colored both above and below, and more heavily barred.

Range.—Breeds on the Pacific coast from southern California north to Alaska; east to Idaho; winters south into Mexico.

722b. Kadiak Winter Wren (*O. h. helleri*). Slightly larger and paler than No. 722a. (Osgood.)

Range.—Kadiak Island, Alaska.

723. Alaskan Wren (*Olbiorchilus alascensis*). Resembling No. 722a, but paler and larger, W. 2.1, B. .6

Range.—Breeds on Kadiak Island, Alaska; winter range unknown.

723.1. Aleutian Wren (*Olbiorchilus meligerus*). Similar to No. 723, but darker, less reddish; rump and upper tail-coverts more evidently barred; bars on belly heavier. (Oberholser.)

Range.—"Westernmost part of the Aleutian group, Alaska." (Oberholser.

724. Short-billed Marsh Wren (*Cistothorus stellaris*). L. 4; T. 1.4; B. .4. *Ads. Crown* and back streaked with whitish; breast-band, sides and under tail-coverts rusty; wing-coverts tipped with whitish. *Notes.* Call, like sound produced by striking two pebbles together; song, *chap chap chap-chap, chap-chap-chap p-p-rrr.* (Seton.) (See next page.)

Range.—Eastern North America, ranging west to Utah; breeds from the Gulf States north to Massachusetts and Manitoba; winters from the Gulf States southward.

725. Long-billed Marsh Wren (*Telmatodytes palustris*). L. 5.2; T. 1.6; B. .5. *Ads.* Crown and foreback largely black, the latter with white streaks; a white stripe over eye; rump cinnamon; below white, sides washed with cinnamon; outer tail-feathers *black*, broadly barred with pale cinnamon. *Notes.* Call, clicking, a characteristic Wren-like *cacking*; song, a reedy, guttural, bubbling trill often sung in flight.

Range.—Eastern North America west to the Rocky Mountains; breeds from the Gulf States north to Massachusetts and Manitoba; winters locally from Massachusetts, south into Mexico.

725a. Tule Wren (*T. p. paludicola*). Similar to No. 725, but upper tail-coverts barred, middle tail-feathers more distinctly and broadly barred; underparts usually browner.

Range.—Pacific coast; breeds from southern California to British Columbia; winters from Washington to Guatemala.

725b. Worthington Marsh Wren (*T. p. griseus*). Similar to No. 725, but with less black above; upperparts, sides and flanks pale grayish; dark markings of under tail-coverts, flanks, sides and breast, faint, confused and inconspicuous, sometimes practically wanting. (Brewster.)

Range.—Coast of South Carolina and Georgia.

725c. Interior Tule Wren (*T. p. plesius*). Similar to No. 725a, but paler.

Range.—"Western United States, except the Pacific coast; north to British Columbia and Alberta, east to the Rocky Mountains and Texas, south into Mexico." (Oberholser.)

725.1. Marian Marsh Wren (*Telmatodytes marianæ*). Similar to No. 725, but upperparts darker; sides and flanks of about same color as rump; under tail-coverts and sometimes breast barred or spotted with black.

Range.—Gulf coast of Florida.

726. Brown Creeper (*Certhia familiaris americana*). L. 5.6; B. .63. Tail-feathers stiffened and pointed. *Ads.* Rump *rusty*; a *buffy white* band in the wing; back and crown streaked with whitish, black and rusty; below white. *Notes.* Call, a faint, high, thin *seep*; song, "an exquisitely pure, tender song of four notes." (Brewster.)

Range.—Eastern North America; breeds from Maine and Minnesota (casually Missouri) northward; winters from about the southern breeding limits to the Gulf States.

726a. Mexican Creeper (*C. f. albescens*). Similar to No. 726, but rump rich rusty brown, back black, crown *black* streaked with white, band in wing white.

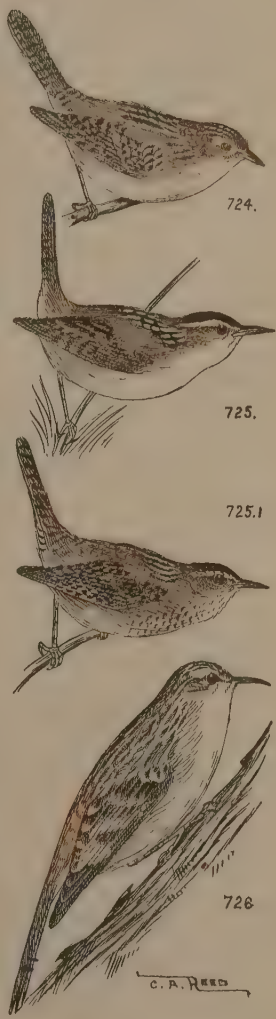
Range.—Mexican plateau region north to southern Arizona.

726b. Rocky Mountain Creeper (*C. f. montana*). Similar to No. 726, but bill longer, .7; band in wing averaging whiter.

Range.—Rocky Mountains from New Mexico and Arizona northward to Alaska.

726c. Californian Creeper (*C. f. occidentalis*). Similar to No. 726, but much rustier; prevailing color of upperparts yellowish rusty.

Range.—Pacific coast; breeds from Santa Cruz Mountains, California, northward to Alaska.



758.

726d. Sierra Creeper (*C. f. zelotes*). Similar to No. 726c, but colors more dusky and less rufescent; similar to No. 726b, but much darker; light centers of feathers on head and back much reduced. (Osgood.)

Range.—"Southern Cascade Mountains of Oregon and Sierra Nevada of California." (Osgood.)

756. Wilson Thrush; Veery (*Hylocichla fuscescens*). L. 7.5. *Ads.* Above, wings and tail, *uniform* cinnamon brown; below white, sides grayish, breast and throat buff rather faintly marked with triangular spots the color of the back. *Notes.* Call, a clearly whistled *whee-you* and a softer *too-whee*; song, a weird, *spiral* of blended alto and soprano tones largely on one note.

Range.—Eastern North America; breeds from northern New Jersey, the mountains of Pennsylvania, and northern Illinois north to Newfoundland and Manitoba; winters in Central America.

759.

756a. Willow Thrush *H. f. salicicola*). Similar to No. 756, but more olive above.

Range.—Rocky Mountains north to British Columbia, east to Dakota; in migration, casually to Illinois and South Carolina; winters as far south as southern Brazil.

759. Alaskan Hermit Thrush (*Hylocichla guttata*). L. 6.5. W. 3.5; tail *rufous*, *much* brighter than back. *Ads.* Eye-ring whitish, not deep buff; back olive-brown; breast tinged with buff and heavily spotted with large, wedge-shaped marks.

Range.—Breeds in northwest coast region from British Columbia to Alaska; in winter south to Mexico.

759a. Audubon Hermit Thrush (*H. g. auduboni*). Similar to No. 759, but larger, W. 4; back grayer, tail paler, flanks less heavily washed with gray.

Range.—Rocky Mountain region of United States south to Guatemala.

759b

759b. Hermit Thrush (*H. g. pallasii*). Similar to No. 759, but back and sides browner. *Notes.* Call, a low *chuck*; song, highly musical and probably exceeding in spiritual quality that of any of our birds.

Range.—Eastern North America; breeds from Michigan, Alleghanies in Pennsylvania, Catskills, higher mountains of Massachusetts (rarely at sea level), north to Labrador; winters from New Jersey to Gulf States.

759c. Dwarf Hermit Thrush (*H. g. nana*). Similar to No. 759, but smaller, W. 3.2, back slightly browner.

Range.—Pacific coast; breeds from Washington south through Sierra Nevadas; east, in migrations, to Nevada and Arizona; south to Lower California and western Mexico. (A. O. U.)

757. Gray-cheeked Thrush (*Hylocichla aliciæ*). L. 7.5; W. 4. *Ads.* Tail and back the *same* color, olive without brownish tinge; eye-ring and lores *whitish*, cheeks and breast only *slightly* tinged with buff, breast with wedge-shaped spots. *Notes.* Doubtless like those of No. 757a.

Range.—Breeds in Labrador and west to Alaska; migrates through eastern North America and winters in Central America.

757

757a. Bicknell Thrush (*H. a. bicknelli*). Similar to No. 757, but smaller, L. 7; W. 3.5. *Notes.* Calls, *pheu* like that of Veery; a low *cluck* like that of Hermit Thrush, and rarely, a pip or *peenk* like that of Olive-backed Thrush; song, like that of Veery but more interrupted. (Brewster.)

Range.—Breeds in the high parts of the Catskills and north to White Mountains and Nova Scotia; winters in tropics.

758. Russet-backed Thrush (*Hylocichla ustulata*). L. 7.2; W. 4. Tail *not* decidedly more rufous than back. *Ads.* Eye-ring, cheeks, sides of neck and breast *distinctly buffy*; breast with wedge-shaped spots; back and *flanks* olive-brown; tail slightly browner. The most deeply colored bird of the *ustulata* group.

Range.—Pacific coast; breeds from Oregon to Alaska; winters south to Guatemala.

758

758a. Olive-backed Thrush (*H. u. swainsonii*). Similar to No. 758, but back, tail, and flanks without brownish or rufescent tinge. *Notes.* Call, a liquid *puit*; song, suggesting both that of Hermit Thrush and the Veery.

Range.—Eastern North America; breeds in Alleghanies from Pennsylvania and the Catskills, north to New Brunswick and Manitoba; winters in Central and South America.

758b. California Olive-backed Thrush (*H. u. œdica*). Differs from 758 and 758a, in more rufescent coloration on the flanks; sides and upper surface usually paler than No. 758. (Oberholser.)

Range.—California, except north coast; north in interior to southern Oregon; south, in winter to Arizona and southern Mexico. (Oberholser.)

758a

758c. Alma Thrush (*H. u. almæ*). Similar to No. 758a, but back and flanks grayer. The palest bird of the *ustulata* group.

Range.—Alaska, except Yukon Basin, south in Rocky Mountain region, and west to Utah and eastern Nevada. (A. O. U.)

GRAY-HEADED JUNCOS.

566. White-winged Junco (*Junco aikeni*). L. 6.5; W. 3.30 *Ads.* Resembling No. 567, but larger, paler, wings generally with two white bars; *three* outer tail-feathers mostly or entirely white; fourth partly white.

Range.—Breeds in Wyoming and western North Dakota; winters in Colorado, western Kansas, casually to Indiana and Wisconsin. (Ridgw.)

567. Slate-colored Junco (*Junco hyemalis*). L. 6.2; W. 3. *Ad.* ♂, *summer.* Head and back gray, the crown sometimes slightly darker, the feathers usually more or less tipped with brownish; breast and sides *gray*; belly white; third outer tail-feather with white. *Ad.* ♀, *summer.* Similar, but brown wash stronger. *Ads., winter.* Brown tips to feathers longer, sides sometimes brownish. *Notes.* Calls, a sharp, kissing note and a rapid *chew-chew-chew*; song, a simple, twittering trill.

Range.—Eastern North America, breeds from northern New England, northern New York, and northern Minnesota north to Labrador and northwest to Alaska; and southward along the Alleghanies to Pennsylvania; winters south to the Gulf States.

567e. Carolina Junco (*J. h. carolinensis*). Similar to No. 567, but slightly larger, W. 3.2, the upperparts and breast uniform slate-gray *without* a brownish wash the bill horn color.

Range.—Alleghanies from Virginia to Georgia.

568. Pink-sided Junco (*Junco mearnsi*). L. 6.2. *Ad.* ♂, *summer.* Sides *broadly* brownish pink, center of belly white; breast pale slate-gray, crown darker, back washed with brownish. *Ad.* ♀ *in summer.* Similar to the ♂, but with less pink on sides, the crown washed with gray. *Ads. winter.* Similar to summer Ads., but with more brownish.

Range.—Breeds in southern Idaho and south-central Montana; winters south through Wyoming and Colorado to northern Mexico.

567.1. Montana Junco (*Junco montanus*). Similar to No. 568, but with less pink on the sides, the throat and breast darker slate.

Range.—Breeding from northwestern Montana and northern Idaho north to northwest Territory and Alberta; in winter south to Mexico, east more or less irregularly to the Mississippi, Massachusetts, and Maryland. (Ridgw.)

571. Baird Junco (*Junco bairdi*). Back and sides rusty cinnamon, head gray, throat and breast grayish white, belly white.

Range.—Cape Region of Lower California.

572. Guadalupe Junco (*Junco insularis*). Similar to *mearnsi* but smaller, W. 2.7, bill longer, head and breast darker.

Range.—Guadalupe Island, Lower California.

571.1. Townsend Junco (*Junco townsendi*). Similar to No. 567.1, but with the back grayer, the brownish wash much reduced.

Range.—San Pedro Martir Mountains, northern Lower California.

GRAY-HEADED, BROWN-BACKED JUNCOS.

569. Gray-headed Junco (*Junco caniceps*). L. 6.5; W. 3.2; T. 2.9. *Ads.* Head, breast and *sides* gray; back reddish brown; *no* reddish brown on wings; three outer tail-feathers with white; *upper* and lower mandibles pinkish.

Range.—Breeds in mountains of southern Wyoming, Colorado, Utah, Nevada, and northern New Mexico. (Ridgw.)

570. Arizona Junco (*Junco phæonotus palliatus*). L. 6.5; W. 3.2; T. 2.9. *Ads.* Head gray; underparts *grayish white*; back, and to a greater or less extent, *wing-coverts* and *tertials*, reddish brown; three outer tail-feathers with white; iris *yellow*; upper mandible blackish, lower *yellowish*. *Notes.* Calls, resemble those of No. 567; song suggests that of Song Sparrow.

Range.—Breeds in mountains of southern Arizona and southward.

570a. Red-backed Junco (*Junco dorsalis*) L. 6.7; W. 3.3; T. 3. *Ads.* Head gray; underparts *grayish white*; back reddish brown; *no* reddish brown on wings; three outer tail-feathers with white; upper mandible blackish, lower *flesh-color*; iris "brown."

Range,—Breeds on high mountains of New Mexico and central Arizona; winters south to northern Mexico and western Texas.

BLACK-HEADED JUNCOS.

567a. Oregon Junco (*Junco oreganus*). L. 6.2; W. 3. *Ad.* ♂, *summer*. Head, neck, throat and breast *black* sharply defined from the mahogany brown back, third outer tail-feather with little or no white; sides washed with pinkish brown. *Ad.* ♀, *summer*. Head and breast grayer, back paler. *Ads. winter*. Back deeper, the head and neck more or less tipped with brown, the breast with gray, these areas less sharply defined from the back and belly.

Range.—Pacific coast; breeds from northern British Columbia to Alaska; winters south to California.

—**Shufeldt Junco** (*J. o. shufeldti*). Similar to No. 567a, but larger, W. 3.1, brown of back less intense.

Range.—Pacific coast; breeds from Oregon north to British Columbia (and eastward in humid regions to Montana?); winters south to northern Mexico.

567b. Coues Junco (*J. o. connectens*). Similar to *shufeldti*, but back paler, brownish gray, breast grayer, sides with less pinkish brown, head and breast still sharply defined from adjacent areas.

Range.—Breeds in the interior of British Columbia and probably in arid districts southward (breeding areas not definitely known); winters southward doubtless to Mexican boundary.

567c. Thurber Junco (*J. o. thurberi*). Similar to No. 567, but back much paler, a bright pinkish brown; head and breast black as in No. 567.

Range.—Breeds in mountains from southern Oregon south to southern California; east to western Nevada.

567d. Point Pinos Junco (*J. o. pinosus*). Similar to No. 567c, but throat and breast slate-color.

Range.—Santa Cruz district of California; breeds from King Mountain, south at least to Point Sur, County; wanders eastward in winter into Santa Clara and San Benito Valleys. (Grinnell.)

733. Plain Titmouse (*Bæolophus inornatus*). L. 5.5. *Ads.* Head crested; above grayish *brown*; below grayish *white*, belly white, sides often buffy. *Notes.* Similar to those of the Tufted Titmouse, but weaker and less varied. (Ridgw.)

Range.—California, west of the Sierra; north to Oregon.

733a. Gray Titmouse (*B. i. griseus*). Similar to No. 733, but above *gray*; below whitish *gray*, no buff on sides.

Range.—Southwestern United States: from southeastern California and Nevada to Colorado and New Mexico.

733b. Ashy Titmouse (*B. i. cineraceus*). Similar to No. 733a, but underparts grayish *white*, not whitish *gray*.

Range.—Cape Region of Lower California.

743. Bush-Tit (*Psaltriparus minimus*). L, 4.2; T. 2.1. *Ads.* Crown *sooty* brown; back grayish brown; below brownish white, sides darker.

Range.—Pacific coast from northern California to Washington.

743a. California Bush-Tit (*P. m. californicus*). Similar to No. 743, but crown much lighter, brighter brown, quite different from the brownish gray back; underparts paler. *Notes.* When feeding, a faint *tsit, tsit, tsit, tsit*, when moving about, *tsit, tsit, tsit, sre-e-e-e; tsit, sre-e-e-e*; when a bird is separated from its companions, same as last but uttered more hurriedly; alarm note, a greatly intensified *tsit'; tsit'; tsit'; tsit':* in presence of Hawk or Owl a shrill, quavering trill, *sre-e-e-e-e-e.* (Grinnell.)

Range.—California, except the north coast region.

743b. Grinda Bush-Tit (*P. m. grindæ*). Similar to No. 743, but back bluish ash-gray. (Ridgw.)

Range.—Cape Region of Lower California.

744. Lead-colored Bush-Tit (*Psaltriparus plumbeus*). L. 4.5. *Ads. Crown* and back bluish gray, sides of head brownish; below dingy white with a buffy tint on belly.

Range.—Western United States from eastern Oregon and eastern California east to Wyoming, Colorado, and western Texas.

744.1. Santa Rita Bush-Tit (*Psaltriparus santaritæ*). Similar to No. 744, but smaller, sides of head paler, male with a more or less distinct blackish line along sides of head as in female of No. 745. (Ridgw.) (Now considered the same as 745.)

Range.—Santa Rita Mountains, southern Arizona.

745. Lloyd Bush-Tit (*Psaltriparus lloydi*). L. 4.2. *Ad.* ♂. Sides of head shining black, crown blue-gray, back browner; chin blackish, underparts whitish, the belly and sides buffy. *Ad.* ♀. Sides of head brownish, ear-coverts bordered above by a narrow black line; no black on chin. *Yng.* Similar to ♀, but no black in head.

Range.—"Mountains of western Texas, between the Pecos and Rio Grande Rivers" (Sennett), south into Mexico.

731. Tufted Titmouse (*Bæolophus bicolor*). L. 6. *Ads.* Head crested; forehead *black*; above gray; below whitish, sides rusty. *Notes.* A clearly whistled *pēto, pēto*, and a hoarse *de-de-de.*

Range.—Eastern United States; resident from the Gulf States north to northern New Jersey and southern Iowa; straying somewhat further north in summer after breeding.

731a. Texan Tufted Titmouse (*B. b. texensis*). Similar to No. 731, but forehead rusty, upperparts paler.

Range.—Southeastern Texas.

732. Black-crested Titmouse (*Bæolophus atricristatus*). L. 6.1. *Ads.* Head with a *black* crest; forehead white or tinged with rusty; back gray; below whitish, sides rusty. *Notes.* An abbreviation of the call of No. 731, *pēt-bete-pete-pete.* (Bailey.)

Range.—"From southeastern Texas west to El Paso, south to eastern Mexico." (Bailey.)

751. Blue-gray Gnatcatcher (*Polioptila cærulea*). L. 4.5; T. 2. Outer tail-feathers with white, white tip of next to outer one at least 1.00 long. *Ad.* ♂. Above bluish gray, forehead narrowly black; below grayish white. *Ad.* ♀. Similar, but lighter gray; no black on forehead. *Notes.* Call, a twanging *ting*; song, sweet and varied but of small volume.

Range.—Eastern United States, west to Colorado; breeds from the Gulf States north to southern New Jersey, and Ontario; wanders casually as far north as Maine and Minnesota; winters from the Gulf States southward.

751a. Western Gnatcatcher (*P. c. obscura*). Similar to No. 751, but slightly grayer above; white tip to next to outer tail-feather *less* than 1.00 long.

Range.—Western United States from western Texas west to California and Lower California.

752. Plumbeous Gnatcatcher (*Polioptila plumbea*). L. 4.4. Outer web of outer tail-feather *wholly* white, inner web black except at tip. *Ad.* ♂. Crown shining black, back blue-gray; underparts grayish white. *Ad.* ♀ *and Yng.* ♂. Similar, but no black on head. *Yng.* ♀. Back and sides with a brownish wash. *Notes.* Call, a faint mew; song, "a harsh ditty of five notes, something like a Wren's song with notes like those of a Swallow. (Cooper.)

Range.—Mexican boundary region, from western Texas to southeastern California and Lower California.

753. Black-tailed Gnatcatcher (*Polioptila californica*). L. 4.5; T. 2.1. Similar to No. 752, but outer vane of outer tail-feather *black* margined with white; back darker, underparts much grayer, flanks brownish.

Range.—Pacific coast region of southern California and northern Lower California.

734. Bridled Titmouse (*Bæolophus wollweberi*). L. 5.2. *Ads.* Head crested, black and gray; throat black; hind neck with a white band bounded by black; back olive-gray; below whitish. *Notes.* Chickadee-like but fainter. (Henshaw.)

Range.—Tableland of Mexico north to western Texas and southern Arizona.

738. Mountain Chickadee (*Parus gambeli*). L. 5.5. *Ads.* A white line over the eye and a black through it; back gray; belly whitish. *Notes.* A hoarse, *dee-dee-dee*, a two or three-noted *phe-be* whistle exactly like that of the Chickadee and an exceedingly sweet three-noted whistle of regular intervals, *d*, *c*, *a*.

Range.—"Mountainous portions of the western United States from the eastern base of the Rocky Mountains to the Sierra Nevada, north to British Columbia, Idaho, etc., and south to northern Lower California." (A. O. U.)

740. Hudsonian Chickadee (*Parus hudsonicus*). L. 5.2; W. 2.6. *Ads.* Crown hair-brown, back a more yellow brown; sides of head and neck grayish white; throat black, belly white, sides rusty. *Notes.* *Tscha-dee-dee-dee-dee*; the *dee-dee* notes repeated with almost incessant volubility. (Brewer.)

Range.—British America, from the west side of Hudson Bay northwestward to the Lower Yukon.

740a. Kowak Chickadee (*P. h. stoneyi*). Similar to No. 740, but larger, W. 2.7, above grayer, crown much paler.

Range.—Kowak River region, Alaska.

740b. Columbian Chickadee (*P. h. columbianus*). Similar to No. 740, but grayer above, crown slaty-drab.

Range. Rocky Mountains from Montana northward; Kenai Peninsula, Alaska.

—Canadian Chickadee (*P. h. littoralis*). Similar to No. 740, but smaller, W. 2.5, crown duller brown.

Range.—British America east and south of Hudson Bay; northern New York, northern New England, New Brunswick, Nova Scotia.

739. Alaskan Chickadee (*Parus cinctus alascensis*). L. 5.2. *Ads.* Crown *brown*, back *brighter*; sides of head and neck *pure white*; throat blackish; belly whitish, sides buffy.

Range.—"Northern Alaska and eastern Siberia." (A. O. U.)

741. Chestnut-backed Chickadee (*Parus rufescens*). L. 4.6. *Ads.* Back and sides rusty chestnut, crown sooty brown, throat black. *Notes.* A lisping *the-the-the-te-te*. (Kobbe.)

Range. -Pacific coast from Oregon to southern Alaska.

741a. California Chickadee (*P. r. neglectus*). Similar to No. 741, but with only a tinge of rusty on flanks.

Range.—"Coast of California from Monterey County northward." (A. O. U.)

741b. Barlow Chickadee (*P. r. barlowi*). Similar to No. 741a, but with *no* rusty on flanks.

Range.—Vicinity of Monterey, California.

735. Black-capped Chickadee (*Parus atricapillus*). L. 5.2; T. 2.5. *Ads.* Cap and throat black; back gray with a brownish tinge; outer margins of wing-coverts *grayish white*; flanks, cream buff. *Notes. Chickadee-dee,* liquid gurgles and chuckling notes and a sweet, clearly whistled, *phe-be* or *phe-be-e.*

Range.—Eastern North America; breeds from southern Illinois and Pennsylvania north to Labrador, and south along Alleghanies to North Carolina; migrates a short distance below its southern breeding limits.

735a. Long-tailed Chickadee (*P. a. septentrionalis*). Similar to No. 735, but tail longer, 2.7, flanks paler, white edgings broader.

Range.—Rocky Mountain region north to British Columbia; east to Manitoba and the Plains.

735b. Oregon Chickadee (*P. a. occidentalis*). Similar to No. 735, but much darker; flanks grayish.

Range.—Pacific coast from northern California to Sitka.

736. Carolina Chickadee (*Parus carolinensis*). Similar to No. 735, but smaller, L. 4.6; T. 2., the greater wing-coverts *not* margined with whitish. *Notes.* Whistle "*tswee-dee, twsee-dee.*"

Range.—Southeastern United States north to middle New Jersey, and southern Illinois; resident from southern New Jersey southward.

736.a Plumbeous Chickadee (*P. c. agilis*). Similar to No. 736, but paler above, whiter below.

Range.—"Eastern and central Texas (Bee, Victoria, Cook, and Concho Counties, etc.") (A. O. U.)

737. Mexican Chickadee (*Parus sclateri*). Similar to No. 735, but sides broadly gray like back, black more extended. *Notes.* A rapid, vigorous double-noted whistle repeated three times, wholly unlike that of the Chickadee.

Range.—Mountainous portions of the Mexican tableland north to southern Arizona.

630. Black-capped Vireo (*Vireo atricapillus*). L. 4.5. *Ad.* ♂. Crown and cheeks shining black; lores and eye-ring white; back olive-green; below white, sides tinged with greenish yellow; two whitish wing-bars. *Ad.* ♀. Similar, but black of head duller. *Yng.* "Top and sides of head dull grayish brown; lores, orbital ring and lower parts dull buffy white or pale buffy." (Ridgw.) *Notes.* "Of the general character of the White-eye or *bellii* type." (Bailey.)

Range.—Breeds in central and western Texas; north to southern Kansas; winters in southern Mexico.

727. White-breasted Nuthatch (*Sitta carolinensis*). L. 6. *Ad.* ♂. Crown and foreback *bluish* black; sides of head and neck grayish white; tertials with *distinct* black marks rounded at end. *Ad.* ♀. Similar but black of head and shoulders washed with gray. *Notes.* Call, a nasal *yank-yank* and conversational notes; song, a tenor, *ha-ha-ha-ha-ha-ha*, all on the same note.

Range.—Eastern North America west to the Rocky Mountains, breeds from the Gulf States to Minnesota and New Brunswick; resident.

727a. Slender-billed Nuthatch (*S. c. aculeata*). Similar to No. 727, but head usually greenish black; black of tertials less deep and on next to inner one usually pointed at end.

Range.—Western North America west of the Rockies; breeds from Lower California north to British Columbia; resident.

727b. Florida White-breasted Nuthatch (*S. c. atkinsi*). Similar to No. 727, but somewhat smaller, wing-coverts and tertials not tipped with grayish; ♀ with head black as in ♂.

Range.—Florida and north along the coast to South Carolina.

727c. Rocky Mountain Nuthatch (*S. c. nelsoni*). Similar to No. 727a, but larger, W. 3.7, with somewhat more white in tail and more rusty on flanks and lower belly.

Range.—Wooded mountains of northern Chihuahua and Sonora, Arizona, New Mexico, Colorado, and northward. (Mearns.)

727d. St. Lucas Nuthatch (*S. c. lagunæ*). Similar to No. 727a, but with the wings and tail shorter, the black tips of the outer tail-feathers more restricted; W. 3.2; T. 1.7. (Brewster.)

Range.—Higher mountains south of La Paz, Lower California. (Brewster.)

728. Red-breasted Nuthatch (*Sitta canadensis*). L. 4.6. *Ad.* ♂. A stripe through the eye and crown black; line *over* eye white; underparts rusty. *Ad.* ♀. Similar, but crown gray like back, line through the eye blackish, paler below. *Notes.* A fine, thin, nasal, penny-trumpet like, drawled *yna-yna*.

Range.—North America, breeding from the northern portions of the northern tier of States northward, and southward in the Alleghanies to Virginia, in the Rocky Mountains to Colorado, and in the Sierra Nevada in California; winters irregularly southward to the Gulf States and Arizona.

729. Brown-headed Nuthatch (*Sitta pusilla*.) L. 4.3. *Ads.* Crown brown; a white patch on nape; back bluish gray; below grayish white, sometimes tinged with buff. *Yng.* Crown whitish. *Notes.* A conversational, twittering *tnee-tnee*.

Range.—South Atlantic and Gulf States north to Delaware, accidentally to New York and casually to Missouri.

730. Pygmy Nuthatch (*Sitta pygmæa*). L. 4.3. *Ads.* Crown grayish olive; a whitish patch on nape; a dark brown line through eye; below white tinged with buff. *Yng.* Crown gray like back. *Notes.* A metallic, clinking *clittuck, clittuck*.

Range.—Western North America, east to the Rocky Mountains; breeds from Mexico to British Columbia.

730a. White-naped Nuthatch (*S. p. leuconucha*). Similar to No. 730, but bill larger, crown grayer, back less bluish gray, nape patch more conspicuous, underparts white with scarcely more than a trace of buffy. (Ridgw.)

Range.—Lower California.

444. Kingbird (*Tyrannus tyrannus*). L. 8.5. Tail tipped with white. *Ads.* Above slaty, crown blacker with an orange patch. *Yng.* Similar, but no crown-patch. *Notes.* An unmusical, steely chatter. "A soft and very pleasing song," heard only in the early morning. (O. T. Miller.)

Range.—North America, breeds from Florida north to New Brunswick and Manitoba, and from eastern Texas northwest to Utah, Nevada, northeast California and western British Columbia; winters south of United States, to Central and South America.

445. Gray Kingbird (*Tyrannus dominicensis.*) L. 9. *Ads.* No white tip on tail; an orange crown-patch; under wing-coverts sulphur; ear-coverts black; above gray; below white. *Notes.* A loud, chattering, *pitirri, pitirri.*

Range.—West Indies, breeding north through Florida along the coast to South Carolina; winters in Lesser Antilles, Mexico, and Central America.

701. American Dipper; Water Ouzel (*Cinclus mexicanus*). L. 8. *Ads.* Slaty gray, head and neck browner. In winter more or less tipped with whitish. *Notes.* Song, remarkably sweet and lively, in modulation resembling somewhat that of Brown Thrasher, but less powerful though sweeter in effect. (Ridgway.) Call, a sharp, pebbly *cack-cack-cack.*

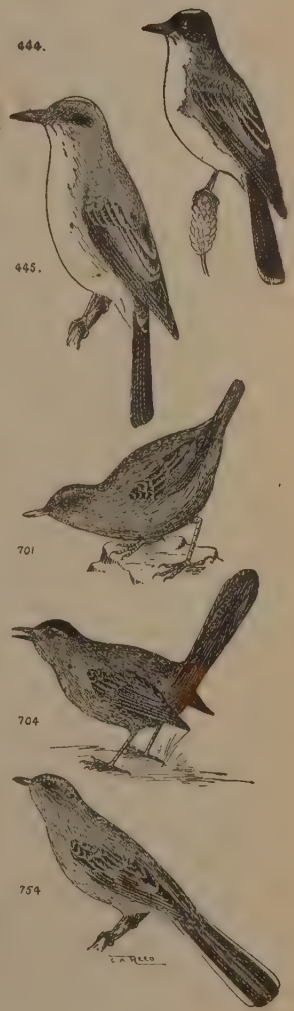
Range.—"The mountainous parts of central and western North America, from the Yukon Valley and Unalaska to Guatemala; east in the United States, to the eastern base of the Rocky mountains. Apparently resident throughout its range." (A. O. U.)

704. Catbird (*Galeoscoptes carolinensis*). L. 8.9. *Ads.* Slaty gray, cap and tail black, under tail-coverts reddish chestnut. *Notes.* Call, a whining, nasal *tchay*; song, rich, musical, and varied.

Range.—North America; west to British Columbia and rarely Pacific coast states; breeds from the Gulf States north to New Brunswick and the Saskatchewan; winters from Gulf States southward.

754. Townsend Solitaire (*Myadestes townsendii*). L. 8.5. *Ads.* Brownish gray; eye-ring, tips of outer tail-feathers, a narrow wing-bar white; wing with a buff band showing in flight. *Notes.* Song, a rich, flowing, Grosbeak-like warbling, sung with great vigor and freedom and often for comparatively long periods.

Range.—"Western United States, from the Plains westward to the Pacific coast, north to British Columbia and south in winter to the southern border of Arizona and northern Lower California; breeds from the mountains of New Mexico, southern Arizona, and central California northward."



621. Northern Shrike (*Lanius borealis*). L. 10.2. Lores grayish. *Ads.* Above bluish gray; tail black, outer featers tipped with white; below white, usually with wavy bars. *Yng.* Above washed with brown; below more distinctly and more heavily barred *Notes.* Song, not unlike that of the Brown Thrasher but more disconnected, less loud.

Range.—North America; breeds from Labrador to Alaska; winters south, irregularly, to Virginia, Kansas, Arizona, and California.

622. Loggerhead Shrike (*Lanius ludovicianus*). 9. Lores black. *Ads.* Underparts white *without* bars; above bluish gray; rump and upper tail-coverts little if any paler; tail black, outer feathers tipped with white. *Yng.* Underparts, head, and rump more or less narrowly barred. *Notes.* Call, harsh and discordant; song, a series of guttural gurgles, squeaky whistles.

Range.—Eastern United States; breeds from Florida to Virginia; in Mississippi Valley, northeast to western Pennsylvania, central and northern New York, Massachusetts, western New Hampshire, Maine, and British Columbia; migrates down Atlantic States, as well as Mississippi Valley, and winters in southern States.

622a. White-rumped Shrike (*L. l. excubitorides*). Similar to No. 622, but paler above, rump and upper tail-coverts whiter; bill less deep.

Range.—"Western North America, from eastern border of the Plains to the Pacific, except coast of California, and from Manitoba and the Plains of the Saskatchewan south over tablelands of Mexico."

622b. California Shrike (*L. l. gambeli*). Similar to No. 622, but rump paler, breast usually with indistinct wavy bars and tinged with brownish.

Range.—Pacific coast, from Lower California to British Columbia.

622c. Island Shrike (*L. l. anthonyi*). Similar to No. 622b, but darker and smaller, W. 3.7.

Range.—Santa Barbara Islands, California.

703. Mockingbird (*Mimus polyglottos*). L. 10.5. *Ads.* Above ashy gray; below soiled whitish; outer tail-feathers with white; wing-coverts narrowly tipped with white; primaries white basally. *Notes.* Call, a harsh, kissing note; song indescribable.

Range.—Southeastern United States and Bahamas, west to northeastern Texas; breeds north to southern New Jersey (rarely Massachusetts), and southern Illinois; winters from Virginia and lower Mississippi Valley southward.

703a. Western Mockingbird (*M. p. leucopterus*). Similar to No. 703, but with a very slight brownish tinge below and white areas in wing averaging larger.

Range.—Southwestern United States and northern Mexico from Indian Territory and eastern Texas west to California.

765. Wheatear (*Saxicola œnanthe*). L. 6; W. 3.7. *Ad. ♂.* Back gray, upper tail-coverts and base of tail white; below white more or less washed with buff. *Ad. ♀.* Browner above and below, no black through eye. *Ads. in winter and Yng.* Similar to ♀, but cinnamon brown above, cinnamon below.

Range.—Asia; migrating in summer to Alaska.

765a. Greenland Wheatear (*S. œ. leucorboa*). Similar to No. 765, but larger, W. 4.

Range.—Western Europe; breeds in Greenland and on adjoining mainland; rarely south to St. Lawrence; casually to Louisiana.

573. Black-throated Sparrow (*Amphispiza bilineata*). L. 5.3. *Ads.* Throat, upper breast, and front of face black; a white stripe over eye and another at the side of the throat; above grayish brown unstreaked; outer web of outer tail-feather white, except at tip; at least half an inch of tip of inner web white. *Notes.* Song, simple but sweet, three ascending and three descending notes.

Range.—Middle and eastern Texas (except along coast?), north to Oklahoma and western Kansas; winters from central Texas south into northeastern Mexico.

573a. Desert Sparrow (*A. b. deserticola*). Similar to No. 573, but above grayer, the white tip to outer tail-feather *less* than half an inch long.

Range.—Western United States and northern Mexico, from western Texas to southeastern California; breeds north to southern Colorado, and western Nevada; winters south into Mexico.

602. Morellet Seed-eater (*Sporophila morelleti*). L. 4.6. *Ad.* ♂. Entire upperparts, cheeks, tail, wings and breast-band black; bases of wing-feathers, tips to coverts and underparts, except breast-band, whitish. *Ad.* ♀. Above grayish brown, below uniform buffy. *Yng.* ♂. Variously intermediate between Ad. ♂ and Ad. ♂. At least two years evidently required to reach mature plumage.

Range.—Eastern Mexico, north to southeastern Texas.

636. Black and White Warbler (*Mniotilta varia*). L. 5.3. *Ad.* ♂. Above streaked black and white; throat black or white; belly white; sides streaked black and white. *Ad.* ♀. Less black; whiter below; throat always white. *Notes.* Song, a thin, wiry, *see-see-see-see.*

Range.—Eastern North America; breeds from Virginia, Louisiana, and northern Texas, north to Hudson Bay region; winters from Gulf States south to northern South America; accidental in California.

661. Black-poll Warbler (*Dendroica striata*). L. 5.6. *Ad.* ♂. Crown black, cheeks white; back streaked, gray and black; below white streaked with black; wing-bars and tail-spots white. *Ad.* ♀. No black cap; above olive-green streaked with black. *Yng. and Ad. in winter.* Above olive-green lightly streaked with black; below *yellowish* white; breast obscurely streaked. *Notes.* Song, a slender, wiry *tree-tree-tree-tree-tree-tree-tree-tree*, rapidly uttered. (Langille.)

Range.—Eastern North America, west to the Rockies; breeds from northern New England, northern New York, northern Michigan, and Colorado, north to Labrador and Alaska; winters in West Indies and northern South America.

665. Black-throated Gray Warbler (*Dendroica nigrescens*). L. 5. *Ad.* ♂. Crown, cheeks and throat black, a white stripe at sides of throat, a yellow line before eye; back gray streaked with black; wing-bars and tail-patches white. *Ad.* ♀. Similar, but crown not always wholly black. *Yng.* Above washed with brownish, black areas tipped with white. *Notes.* Song, *zee-ee-zee-ee, ze, ze, ze*, with the quality of the song of *Dendroica virens* or *D. cærulescens.*

Range.—Western United States: breeds in mountains from Arizona and northern Lower California, north to Colorado and Vancouver Island; winters in Mexico.

611. Purple Martin (*Progne subis*). L. 7.8. *Ad.* ♂. Shining blue-black, all feathers with dusky bases. *Ad.* ♀. Above dull blue-black; breast grayish edged with white; belly whitish. *Yng.* ♂. Variously intermediate between ♀ and Ad. ♂.

Range.—North America, except Pacific coast; breeds north to Newfoundland and the Saskatchewan; winters in tropics.

611a. Western Martin (*P. s. hesperia*). ♂ similar to ♂ of No. 611; ♀ belly whiter; forehead grayish.

Range.—Pacific coast from northern Lower California to Washington (and British Columbia?); winters in tropics.

611.1. Cuban Martin (*Progne cryptoleuca*). W. 5.50. *Ad.* ♂. With feathrers of ventral region basally marked with white. *Ad.* ♀ *and Yng.* ♂. With breast and flanks sooty grayish brown, belly *pure white.*

Range.—Cuba, north in spring to southern Florida.

612. Cliff Swallow (*Petrochelidon lunifrons*). L. 5.5. *Ads.* Throat chestnut, forehead and rump cinnamon-buff; nape gray; crown and back glossy blue-black, the back streaked with white. *Yng.* Throat dusky, often mixed with chestnut; back blackish brown; rump cinnamon-buff, forehead usually with same.

Range.—"North America, north to the limit of trees, breeding southto the valleys of the Potomac and Ohio, southern Texas, southern Arizona, and California; Central and South America in winter; not recorded from Florida or West Indies." (A. O. U.)

612.2. Mexican Cliff Swallow (*Petrochelidon melanogastra*). Similar to No. 612, but smaller, W. 4.1, forehead deeper, usually chestnut, like throat, rump darker, more rusty.

Range.—Mexico, north to southern Arizona.

613. Barn Swallow (*Hirundo erythrogastra*). L. ♂, 7.5; ♀, 6.5. Tail deeply forked. *Ad.* ♂. Above glossy blue-black, forehead chestnut; throat and upper breast chestnut, belly paler. *Ad.* ♀. Forehead, and underparts paler; tail less deeply forked. *Notes.* Song, a sweet, twittering, warbling song. (The notes of all our Swallows, while simple, are dignostic but difficult of description.)

Range.—North America, north to Greenland and Alaska; breeds through most of range; winters south to southern Brazil.

614. Tree Swallow (*Iridoprocne bicolor*). L. 6. *Ads.* Above steel-blue or steel-green; below white. *Yng.* Sooty gray above; white below.

Range.—North America: breeds locally from Lat. 41° on Atlantic coast and Lat. 38° on Pacific coast north to Labrador and Alaska; winters from South Carolina and southern California to the tropics.

615. Northern Violet-Green Swallow (*Tachycineta thalassina lepida*). L. 5.2; W. 4.5. *Ad.* ♂. Above bronze-green; upper tail-coverts greener; an indistinct nape-ring; mark above eye, cheeks and underparts white; flank-patches white, often showing from above. *Ad.* ♀. Much duller, the head browner. *Yng.* Above brownish sooty with a greenish tinge; a whitish mark above and behind eye; below white.

Range.—Western United States, from eastern base of Rockies to Pacific; breeds from Mexico north to British Columbia; winters in Mexico and Central America.

615a. St. Lucas Swallow (*T. t. brachyptera*). Similar to No. 615, but wing shorter, ♂, 4.1, ♀, 4. (Brewster.)

Range.—Lower California.

458. Black Phœbe (*Sayornis nigricans*). L. 7.2. *Ads.* Breast and head black, back grayer; outer web of outer tail-feather white; belly black, under tail-coverts white *streaked with dusky. Notes.* A liquid *hip*, a rising *kee-ree*, and a falling *kee-wray*. (Bailey.)

Range.—Mexico, except Yucatan and Pacific coast from Colima northward, north into Texas, New Mexico, and southeastern Arizona.

458a. Western Black Phœbe (*S. n. semiatra*). Similar to No. 458, but under tail-coverts white without dusky streaks.

Range.—Pacific coast of Mexico and United States, from Colima to Oregon, including most of Arizona. (Nelson.)

494. Bobolink; Reedbird (*Dolichonyx oryzivorus*). *Ad.* ♂, *summer.* Black; nape buffy, lower back, scapulars and upper tail-coverts white. *Ad.* ♀. Above yellowish brown streaked with buff, and black; below yellowish white, sides streaked with black. *Winter plumage, Ads and Yng.* Like ♀ but yellower. *Notes.* Song, an irrepressible bubbling outburst of "mad music" often given on the wing; calls, a blackbird-like *chuck* and a metallic, far carrying, *chink*.

Range.—Eastern North America, west to Utah; breeds from northern New Jersey, Illinois and Kansas, north to Nova Scotia, Manitoba, and Montana; migrates south through Florida and West Indies, and winters south o. Amazon.

534. Snowflake (*Passerina nivalis*). L. 6.9. Hind toe-nail twice as long as shortest toe-nail. *Ad.* ♂, *summer.* Head, rump, secondaries, outer tail-feathers and below white; rest of plumage largely black. *Ad.* ♀, *summer.* Similar, but crown blackish, back edged with rusty or grayish. *Winter.* Above rusty and black, below white, breast tinged with rusty. *Notes.* Calls, a clearly piped whistle, and a peculiar *chirr*, often uttered when taking wing; song, short, simple, but rather sweet. (Minot.)

Range.—Breeds in northern parts of northern hemisphere; in winter south to northern states; irregularly to Georgia, southern Indiana, Kansas, Colorado, and eastern Oregon.

534a. Pribilof Snowflake (*P. n. townsendi*). Similar to No. 534, but larger, with relatively longer bill; ♂, W. 4.7; B. .5. (Ridgw.).

Range.—Aleutian and Commander Islands, Pribilof Islands, Shumagin Islands. (Ridgw.).

535. McKay Snowflake (*Passerina hyperborea*). L. 7.5; W. 4.6; B .4. Similar to No. 534, but with more white. *Ad.* ♂, *summer.* Back and scapulars entirely white. *Ad.* ♀, *summer.* Crown and hind-neck white. *Yng.* Not certainly distinguishable from Yng. of No. 534. (Ridgw.)

Range.—Breeds on Hall and St. Mathews Islands, Bering Sea; in winter west coast of Alaska.

484.

605. Lark Bunting (*Calamospiza melanocorys*). L. 7.2. *Ad.* ♂. Black, patch in wing white, outer tail-feathers tipped, tertials margined with white. *Ad.* ♀. Above grayish brown streaked with blackish; below white conspicuously streaked with black; all but central tail-feathers with white tips; broad wing-bars buff. *Yng.* ♂. Variously intermediate between Ad. ♂ and ♀. (See page 251).

Range.—Western United States, chiefly east of Rockies; breeds from western Kansas and eastern Colorado, north to western Minnesota and Assiniboia; winters in Mexico; irregular west in migrations to Idaho and southern California.

484a

484. Canada Jay; Whiskey Jack (*Perisoreus canadensis*). L. 11.5. *Ads.* Black of hindhead reaching to back of eye; back, wings, and tail gray, belly lighter, throat white; forehead buffy white. *Notes.* *ca-ca-ca* and a number of peculiar sounds impossible to reproduce on paper. (Bendire.)

Range.—Eastern North America; Nova Scotia, New Brunswick, northern New England northern New York, northern Michigan; northern Minnesota, north to Newfoundland and Hudson Bay region, west to the Rockies in Alberta.

484a. Rocky Mountain Jay (*P. c. capitalis*). Similar to No. 484, but head white, black of hindhead grayer and *not* reaching to eye.

Range. Rocky Mountain region from New Mexico and Arizona north to Montana and Idaho.

484b. Alaskan Jay (*P. c. fumifrons*). Very near to No. 484, but forehead averaging more yellowish.

Range. - Alaska; interior and west to Cook Inlet, north of southern coast region.

485.

484c. Labrador Jay (*P. c. nigricapillus*). Similar to No. 484, but black of hindhead deeper and reaching forward as a well defined ring around the eye; below browner.

Range.—Labrador.

485. Oregon Jay (*Perisoreus obscurus*). Similar to No. 484, but back feathers with *light shaft streaks*, forehead less white, underparts nearly uniform white.

Range.—Pacific coast from northern California to southern British Columbia.

485a. Gray Jay (*P. o. griseus*). Similar to No. 485, but larger and grayer; back, etc., deep mouse gray, instead of brown; below grayish white instead of brownish white. (Ridgw.)

Range.—British Columbia, Washington, Oregon, and northern California, east of Coast and Cascade Ranges. (Ridgw.)

491

491. Clarke Nutcracker (*Nucifraga columbiana*). L. 12. *Ads.* Gray; wings and middle tail-feathers black, tips of secondaries and outer tail-feathers white. *Notes.* A loud, harsh, *car-r-car-r.*

Range.—Mountains of western North America, from northern Lower California, Arizona and New Mexico, north to northern Alaska; casually east to Mississippi Valley.

475. American Magpie (*Pica pica hudsonia*). L. 20. *Ads.* Bill *black*; scapulars, belly and most of inner margins of primaries white; wings glossy blue black, tail externally greenish; back and breast velvety black. *Notes.* *Cack, cack*, also garrulous gabble intermixed with whistling notes. (Bendire.)

Range.—Western North America, east to the Plains, west to Cascade and Sierra Ranges; breeds from northern New Mexico and northern Arizona north to Alaska, strays farther east in winter.

476. Yellow-billed Magpie (*Pica nuttalli*). Similar to No. 475, but bill and eye-space *yellow*; smaller, L. 18. *Notes.* A harsh, rasping, *cac-cac-cac*; and a low, rich whistle, audible only at a short distance.

Range. California, west of Sierra Nevada, "north to Red Bluff and south to Santa Paula." (Grinnell.)

493. Starling (*Sturnus vulgaris*). L. 8.5; T. 2.5. *Ad. summer*, Metallic green and purple spotted above with buffy; bill *yellow*. *Ad. winter.* Similar, but above heavily spotted with brownish buff; below heavily spotted with white; bill blackish. *Notes.* A long-drawn, two-noted whistle, the second lower; and a chattering, metallic call when in flocks.

Range.—Europe and northern Asia; accidental in Greenland; introduced into New York City in 1890; now common, extending east to New Haven, Connecticut, north to Ossining, New York, south to Staten Island and Plainfield, New Jersey.

495. Cowbird (*Molothrus ater*). L. 7.9; W. 4.2. *Ad.* ♂. Head and neck coffee-brown, body greenish black. *Ad.* ♀. Brownish gray, throat lighter. *Yng.* Like ♀. *Notes.* A metallic twitter, and by the male, a long-drawn, glassy *kluck-ise-e-e*; and watery gurgling notes uttered with spread wings and tail.

Range.—United States: rare west of Rockies; breeds from Florida and Texas north to New Brunswick and Little Slave Lake; west to eastern Oregon, Nevada, and southeastern California; winters from southern New Jersey, southern Illinois, Indian Territory, northern Texas, and southeastern California, southward.

495a. Dwarf Cowbird (*M. a. obscurus*). Similar to No. 495, but smaller, L. 7.5; W. 4.

Range.—Southwestern United States; from Gulf Coast of Texas west along Mexican boundary to Arizona and Lower California; winters south of United States.

496. Red-eyed Cowbird (*Callothrus robustus*). L. 9. *Ad.* ♂. Velvety bronze-black; wings and tail shining blue-black. *Ad.* ♀. Dull black, wings and tail with slight greenish reflections.

Range.—Southern and eastern Mexico north, in spring, to Lower Rio Grande, Texas.

620. Phainopepla (*Phainopepla nitens*). L. 7.5. Crested. *Ad.* ♂. Shining black; inner vanes of primaries largely white, showing in flight. *Ad.* ♀. Dark gray, tail blacker, wing-coverts and quills narrowly margined with whitish. *Yng.* Like ♀. *Notes.* Calls, commonest, like call of young Robin; male has also a scold, a Meadowlark-like note and a harsh *ca-rack* or *ca-racack*; song, a jumble of flute-like tones and weak, squeaky notes. (Bailey.)

Range.—Mexico north to western Texas, southern Utah and southern California; winters from Mexican border southward.

509. Rusty Blackbird (*Scolecophagus carolinus*). L. 9.5. *Ad.* ♂. Nearly uniform greenish black, sometimes with rusty edgings. *Ad.* ♀. Slaty gray, generally with some rusty edgings. Winter plumage of both sexes similar to summer, but widely tipped with rusty above and yellowish rusty below. *Notes.* More musical than those of other Blackbirds; calls, *tchack* or *turalee* repeated several times. (Bendire.)

Range.—Eastern North America west to the Plains; breeds from New Brunswick, northern New England, northern New York, and Manitoba, north to Labrador and Alaska; winters from Virginia, southern Illinois, and Kansas, southward.

510. Brewer Blackbird (*Scolecophagus cyanocephalus*). L. 10. *Ad.* ♂. Whole head violet-purple, rest of plumage bright greenish black. *Ad.* ♀. Grayish brown, throat paler, wings and tail greenish black; no rusty. Winter plumage with light grayish brown edgings to the feathers of the anterior part of the body. *Notes.* *Chack* and a loud, shrill whistle. (Bailey.)

Range.—Western North America from the Plains to the Pacific; breeds from Texas and northern Lower California north to the Saskatchewan and British Columbia; winters in the southern parts of its range; casually east to Mississippi River states.

511. Purple Grackle (*Quiscalus quiscula*). L. ♂, 12. *Ad.* ♂. Head, purple, steel-green or steel blue; back purple, brassy green or greenish; the feathers *always* with *iridescent* bars. *Notes.* *Tchak* and a short unmusical call uttered with spread wings and tail.

Range.—Eastern United States; breeds in lower Mississippi Valley and east of Alleghanies, from Georgia to Massachusetts; winters from Virginia southward through its breeding range.

511a. Florida Grackle (*Q. q. aglæus*). Similar to 511, but slightly smaller, head always violet purple; back always bottle-green, with iridescent bars.

Range.—Florida, north on the Atlantic coast to Virginia, west on the Gulf Coast to Texas.

511b. Bronzed Grackle (*Q. q. æneus*). Head as in No. 511, back and belly bronze, the feathers *wholly without* iridescent bars.

Range.—Eastern United States west to the Rockies; breeds from southern Texas to Great Slave Lake, east to Alleghanies, and, in New York, east and northeast to Connecticut, Massachusetts, and Labrador; winters chiefly in lower Mississippi valley; migrates in part east of the Alleghanies.

513. Boat-tailed Grackle (*Megaquiscalus major*). L. ♂, 16; W. 7.5; T. 7. *Ad.* ♂. Head and neck glossy purple; back and belly glossy greenish blue. *Ad.* ♀. Much smaller, T. 5.2; above blackish brown; below soiled rusty buff. *Notes.* *Tchack*, a variety of hoarse, rather forced whistles and a gurgling roll as of a Coot pattering over the water.

Range.—Florida, north along the coast to Virginia; west along coast to Texas.

513a. Great-tailed Grackle (*M. m. macrourus*). Similar to No. 513, but larger, ♂, L. 18; T. 9. Foreback and breast, as well as head and neck, purple, only rump and lower belly greenish blue; ♀ blacker both above and below than ♀ of 513. *Notes.* *Tchack*, and a greater variety of squeaky calls and hoarse whistles than are uttered by No. 513.

Range.—Eastern Texas and south into Mexico.

486. American Raven (*Corvus corax sinuatus*). L. 24; W. 16; B. 2.7. *Ads.* Resembling No. 488, in color but glossier below and with the feathers of throat narrow and lengthened; nape feathers gray at base. *Notes.* A hoarse, croaking, *craack-craack*, sometimes a deep, grunting *koeer-koeer*; a clucking, and a metallic *klunk*. (Bendire.)

Range.—Western North America, from Guatemala north to British Columbia; east to the Rockies, west to Pacific.

486a. Northern Raven (*C. c. principalis*). Similar to No. 486, but larger, L. 25; W. 17; B. 3.

Range.—Eastern North America, from mountains of northern Georgia and coast of Maine, north to Greenland; west to the Rocky Mountains.

487. White-necked Raven (*Corvus cryptoleucus*). L. 18.5. *Ads.* Blue-black; feathers of throat narrow and lengthened and with feathers of neck all around, *white at the base*. *Notes.* *Kwank-kwank*, less loud and penetrating than those of No. 486. (Bendire.)

Range.—Northern Mexico, north to western Kansas, eastern Colorado (rarely), and southern California; east to western Texas.

488. American Crow (*Corvus americanus*). L. 19.3; W. 12.1; B. 2.00. Black with steel-blue or deep, purplish reflections; below duller, neck feathers not lengthened. *Notes.* *Caw, caw*, with many variations; song, *car-r-r-uck, oo-oo-oo-oo-ah*.

Range.—North America, north to Arctic Circle; winters from northern United States southward; local in west.

488a. Florida Crow (*C. a. pascuus*). Similar to No. 488, but wings and tail somewhat shorter, bill and feet slightly larger, W. 12; T. 7.3; B. 2.1.

Range.—Florida.

489. Northwest Crow (*Corvus caurinus*). Similar to No. 488 in color but smaller; L. 16; W. 11; B. 1.7.

Range.—Northwest coast, from Oregon to Kadiak Island, Alaska.

490. Fish Crow (*Corvus ossifragus*). L. 16; W. 11; B. 1.5. *Ads.* Resemble No. 488, in color, but back feathers are uniform blue-black *without* dull margins; underparts are nearly as bright as upperparts. *Notes.* A hoarse, nasal, reedy *car* resembling the call of the young of No. 488.

Range.—Atlantic coast north to Connecticut, (casually Massachusetts), west along Gulf coast to Louisiana; resident, except at northern limit of range.

SYSTEMATIC TABLE

Of the Birds of America north of Mexico, arranged according to the American Ornithologists' Union's 'Check-List of North American Birds', Third Edition, 1910, and Supplement*, July, 1912.

(The presence of brackets, [ ], indicates that the species is an accidental visitant.)

Order PYGOPODES. Diving Birds

Family COLYMBIDÆ. Grebes.

A.O.U. No.	COMMON NAME	SCIENTIFIC NAME	Page
1	Western Grebe	Æchmophorus occidentalis	44
2	Holbœll's Grebe	Colymbus holbœlli	43
3	Horned Grebe	" auritus	43
4	Eared Grebe	" nigricollis californicus	43
5	Mexican Grebe	" dominicus brachypterus	43
6	Pied-billed Grebe	Podilymbus podiceps	43

Family GAVIIDÆ. Loons.

7	Loon	Gavia immer	44
8	Yellow-billed Loon	" adamsi	44
9	Black-throated Loon	" arctica	44
10	Pacific Loon	" pacifica	44
11	Red-throated Loon	" stellata	44

* The Auk, xxix, 1912, pp. 380-387.

† Note that trinomials are now employed for all the races of a species including the first one described. Hence in place of No. 13, Puffin, *Fratercula arctica*, we now have No. 13, Puffin, *Fratercula arctica arctica*. (See pages 6 and 7 for an explanation of this method.)

§ Note also that in accordance with a ruling of the A. O. U., the apostrophe is used with the names of birds named after individuals. Thus in place of No. 16, Cassin Auklet, we have No. 16, Cassin's Auklet. These changes affect all similar cases throughout the Color Key. After identifying a species, therefore, the student should turn to its number in the Systematic Table to learn whether any change has been made in its name. All alterations other than those of mere nomenclature are given beyond in Appendix I.

Family ALCIDÆ. Auks, Murres, and Puffins.

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	Page
12	Tufted Puffin	Lunda cirrhata	45
13	Puffin	Fratercula arctica arctica†	45
13a	Large-billed Puffin	" " naumanni	45
14	Horned Puffin	" corniculata	45
15	Rhinoceros Auklet	Cerorhinca monocerata	45
16	Cassin's Auklet§	Ptychoramphus aleuticus	46
17	Paroquet Auklet	Phaleris psittacula	47
18	Crested Auklet	Æthia cristatella	47
19	Whiskered Auklet	" pygmæa	47
20	Least Auklet	" pusilla	47
21	Ancient Murrelet	Synthliboramphus antiquus	47
23	Marbled Murrelet	Brachyramphus marmoratus	46
24	Kittlitz's Murrelet	" brevirostris	46
25	Xantus's Murrelet	" hypoleucus	46
26	Craveri's Murrelet	" craverii	46
27	Black Guillemot	Cepphus grylle	48
28	Mandt's Guillemot	" mandti	48
29	Pigeon Guillemot	" columba	48
30	Murre	Uria troile troile	48
30a	California Murre	" " californica	48
31	Brunnich's Murre	" lomvia lomvia	48
31a	Pallas's Murre	" " arra	48
32	Razor-billed Auk	Alca torda	48
33	Great Auk	Plautus impennis	48
34	Dovekie	Alle alle	46

Order LONGIPENNES. Long Winged Swimmers

Family STERCORARIIDÆ. Skuas and Jaegers

35	Skua	Megalestris skua	51
36	Pomarine Jaeger	Stercorarius pomarinus	51
37	Parasitic Jaeger	" parasiticus	51
38	Long-tailed Jaeger	" longicaudus	51

Family LARIDÆ. Gulls and Terns.

39	Ivory Gull	Pagophila alba	52
40	Kittiwake	Rissa tridactyla tridactyla	52
40a	Pacific Kittiwake	" " pollicaris	52

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
41	Red-legged Kittiwake	Rissa brevirostris	52
42	Glaucous Gull	Larus hyperboreus	53
43	Iceland Gull	" leucopterus	53
44	Glaucous-winged Gull	" glaucescens	53
45	Kumlien's Gull	" kumlieni	53
46	Nelson's Gull	" nelsoni	53
47	Great Black-backed Gull	" marinus	54
48	Slaty-backed Gull	" schistisagus	54
49	Western Gull	" occidentalis	54
[50]	Siberian Gull	" affinis	A.V.
51	Herring Gull	" argentatus	55
[52]	Vega Gull	" vegæ	A.V.
53	California Gull	" californicus	55
54	Ring-billed Gull	" delawarensis	52
55	Short-billed Gull	" brachyrhynchus	52
[56]	Mew Gull	" canus	A.V.
57	Heermann's Gull	" heermanni	54
58	Laughing Gull	" atricilla	56
59	Franklin's Gull	" franklini	56
60	Bonaparte's Gull	" philadelphia	56
[60.1]	Little Gull	" minutus	A.V.
61	Ross's Gull	Rhodostethia rosea	56
62	Sabine's Gull	Xema sabini	56
63	Gull-billed Tern	Gelochelidon nilotica	58
64	Caspian Tern	Sterna caspia	57
65	Royal Tern	" maxima	57
66	Elegant Tern	" elegans	57
67	Cabot's Tern	" sandvicensis acuflavida	57
[68]	Trudeau's Tern	" trudeaui	A.V.
69	Forster's Tern	" forsteri	59
70	Common Tern	" hirundo	59
71	Arctic Tern	" paradisæa	59
72	Roseate Tern	" dougalli	59
73	Aleutian Tern	" aleutica	58
74	Least Tern	" antillarum	58
75	Sooty Tern	" fuscata	60
[76]	Bridled Tern	" anætheta	58
77	Black Tern	Hydrochelidon nigra surinamensis	60
[78]	White-winged Black Tern	" leucoptera	A.V.
79	Noddy	Anoüs stolidus	60

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
	Family RYNCHOPIDÆ. SKIMMERS.		
80	Black Skimmer	Rynchops nigra	60
	Order TUBINARES. Tubed-nosed Swimmers		
	Family DIOMEDEIDÆ. ALBATROSSES.		
81	Black-footed Albatross	Diomedea nigripes	62
82	Short-tailed Albatross	" albatrus	62
82.1	Laysan Albatross	" immutabilis	62
[83]	Yellow-nosed Albatross	Thalassogeron culminatus	62
[84]	Sooty Albatross	Phœbetria palpebrata	62
	Family PROCELLARIIDÆ. FULMARS, SHEARWATERS, AND PETRELS.		
[85]	Giant Fulmar	Macronectes giganteus	A.V.
86	Fulmar	Fulmarus glacialis glacialis	63
86*b*	Pacific Fulmar	" " glupischa	63
86.1	Rodger's Fulmar	" rodgersi	63
87	Slender-billed Fulmar	Priocella glacialoides	63
[102]	Pintado Petrel	Daption capense	A.V.
88	Cory's Shearwater	Puffinus borealis	64
89	Greater Shearwater	" gravis	64
[90]	Manx Shearwater	" puffinus	A.V.
91	Pink-footed Shearwater	" creatopus	64
92	Audubon's Shearwater	Puffinus lherminieri	64
[92.1]	Allied Shearwater	" assimilis	A.V.
93	Black-vented Shearwater	" opisthomelas	64
93.1	Townsend's Shearwater	" auricularis	64
95	Sooty Shearwater	" griseus	63
96	Slender-billed Shearwater	" tenuirostris	64
96.1	Wedge-tailed Shearwater	" cuneatus	63
[96.2]	New Zealand Shearwater	" bulleri	A.V.
[97]	Black-tailed Shearwater	Priofinus cinereus	A.V.
[98]	Black-capped Petrel	Æstrelata hasitata	65
[99]	Scaled Petrel	" scalaris	A.V.
100	Fisher's Petrel	" fisheri	A.V.
[101]	Bulwer's Petrel	Bulweria bulweri	A.V.
103	Least Petrel	Halocyptena microsoma	65
104	Stormy Petrel	Thalassidroma pelagica	66
105	Forked-tailed Petrel	Oceanodroma furcata	65

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
105.2	Kaeding's Petrel	Oceanodroma kaedingi	65
106	Leach's Petrel	" leucorhoa	66
106.1	Guadalupe Petrel	" macrodactyla	66
[106.2]	Hawaiian Petrel	" castro	A.V.
107	Black Petrel	" melania	66
108	Ashy Petrel	" homochroa	65
108.1	Socorro Petrel	" socorroensis	66
109	Wilson's Petrel	Oceanites oceanicus	66
[110]	White-bellied Petrel	Fregetta grallaria	A.V.
[111]	White-faced Petrel	Pelagodroma marina	A.V.

Order STEGANOPODES. Totipalmate Swimmers

Family PHAËTHONTIDÆ. TROPIC BIRDS.

112	Yellow-billed Tropic-bird	Phaëthon americanus	69
113	Red-billed Tropic-bird	" æthereus	69
[113.1]	Red-tailed Tropic bird	" rubricaudus	A.V.

Family SULIDÆ. GANNETS.

[114]	Blue-faced Booby	Sula cyanops	70
114.1	Blue-footed Booby	" nebouxi	70
115	Booby	" leucogastra	70
115.1	Brewster's Booby	" brewsteri	70
[116]	Red-footed Booby	" piscator	70
117	Gannet	" bassana	69

Family ANHINGIDÆ. DARTERS.

118	Water-Turkey	Anhinga anhinga	73

Family PHALACROCORACIDÆ. CORMORANTS.

119	Cormorant	Phalacrocorax carbo	70
120	Double-crested Cormorant	" auritus auritus	71
120*a*	Florida Cormorant	" " floridanus	71
120*b*	White-crested Cormorant	" " cincinatus	71
120*c*	Farallon Cormorant	" " albociliatus	71
121	Mexican Cormorant	" vigua mexicanus	71
122	Brandt's Cormorant	" penicillatus	72
123	Pelagic Cormorant	" pelagicus pelagicus	72
123*a*	Violet-green Cormorant	" " robustus	72
123*b*	Baird's Cormorant	" " resplendens	72
124	Red-faced Cormorant	" urile	72

Family PELECANIDÆ. PELICANS.

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
125	White Pelican	Pelecanus erythrorhynchos	73
126	Brown Pelican	" occidentalis	73
127	California Brown Pelican	" californicus	73

Family FREGATIDÆ. MAN-O'-WAR BIRDS.

128	Man-o'-war-bird	Fregata aquila	73

Order ANSERES. Lamellirostral Swimmers

Family ANATIDÆ. DUCKS, GEESE, AND SWANS.

129	American Merganser	Mergus americanus	76
130	Red-breasted Merganser	" serrator	76
131	Hooded Merganser	Lophodytes cucullatus	76
[131.1]	Smew	Mergellus albellus	A.V.
132	Mallard	Anas platyrhynchos	76
133	Black Duck	" rubripes	77
134	Florida Duck	" fulvigula fulvigula	77
134*a*	Mottled Duck	" " maculosa	77
135	Gadwall	Chaulelasmus streperus	77
136	European Widgeon	Mareca penelope	77
137	Baldpate	" americana	77
[138]	European Teal	Nettion crecca	A.V.
139	Green-winged Teal	" carolinense	78
140	Blue-winged Teal	Querquedula discors	78
141	Cinnamon Teal	" cyanoptera	78
[141.1]	Ruddy Sheldrake	Casarca ferruginea	A.V.
142	Shoveller	Spatula clypeata	78
143	Pintail	Dafila acuta	76
144	Wood Duck	Aix sponsa	78
[145]	Rufous-crested Duck	Netta rufina	A.V.
146	Redhead	Marila americana	79
147	Canvas-back	" valisineria	79
148	American Scaup Duck	" marila	79
149	Lesser Scaup Duck	" affinis	79
150	Ring-necked Duck	" collaris	79
151	American Golden-eye	Clangula clangula americana	80
152	Barrow's Golden-eye	" islandica	80
153	Buffle-head	Charitonetta albeola	80
154	Old-squaw	Harelda hyemalis	81
155	Harlequin Duck	Histrionicus histrionicus	81

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	Page
156	Labrador Duck	Camptorhynchus labradorius	81
157	Stellar's Eider	Polysticta stelleri	81
158	Spectacled Eider	Arctonetta fischeri	82
159	Northern Eider	Somateria mollissima borealis	82
160	American Eider	" dresseri	82
161	Pacific Eider	" v-nigra	82
162	King Eider	" spectabilis	82
163	American Scoter	Oidemia americana	83
[164]	Velvet Scoter	" fusca	A.V.
165	White-winged Scoter	" deglandi	83
166	Surf Scoter	" perspicillata	83
167	Ruddy Duck	Erismatura jamaicensis	80
[168]	Masked Duck	Nomonyx dominicus	80
169	Lesser Snow Goose	Chen hyperboreus hyperboreus	84
169*a*	Greater Snow Goose	" " nivalis	84
169.1	Blue Goose	" cærulescens	85
170	Ross's Goose	" rossi	84
[171]	European White-fronted Goose	Anser albifrons albifrons	A.V.
171*a*	White-fronted Goose	" " gambeli	85
[171.1]	Bean Goose	" fabalis	A.V.
[171.2]	Pink-footed Goose	" brachyrhynchus	A.V.
172	Canada Goose	Branta canadensis canadensis	86
172*a*	Hutchins's Goose	" " hutchinsi	86
172*b*	White-cheeked Goose	" " occidentalis	86
172*c*	Cackling Goose	" " minima	86
173*a*	Brant	" bernicla glaucogastra	86
174	Black Brant	" nigricans	86
[175]	Barnacle Goose	" leucopsis	A.V.
176	Emperor Goose	Philacte canagica	85
177	Black-bellied Tree-duck	Dendrocygna autumnalis	83
178	Fulvous Tree-duck	" bicolor	83
[179]	Whooper Swan	Olor cygnus	A.V.
180	Whistling Swan	" columbianus	84
181	Trumpeter Swan	" buccinator	84

Order ODONTOGLOSSÆ. Lamellirostral Grallatores

Family PHŒNICOPTERIDÆ. Flamingoes.

182 Flamingo ..... Phœnicopterus ruber 89

Order HERODIONES. Herons, Storks, Ibises, etc.

Family PLATALEIDÆ. SPOONBILLS.

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
183	Roseate Spoonbill	Ajaia ajaja	89

Family IBIDIDÆ. IBISES.

184	White Ibis	Guara alba	90
[185]	Scarlet Ibis	" rubra	89
186	Glossy Ibis	Plegadis autumnalis	90
187	White-faced Glossy Ibis	" guarauna	90

Family CICONDIIDÆ. STORKS AND WOOD IBISES.

188	Wood Ibis	Mycteria americana	90
[189]	Jabiru	Jabiru mycteria	A.V.

Family ARDEIDÆ. HERONS, BITTERNS, ETC.

190	American Bittern	Botaurus lentiginosus	91
191	Least Bittern	Ixobrychus exilis	91
191.1	Cory's Least Bittern	" neoxenus	91
192	Great White Heron	Ardea occidentalis	92
194	Great Blue Heron	" herodias herodias	93
194*a*	Northwestern Coast Heron	" " fannini	93
194*b*	Ward's Heron	" " wardi	93
[195]	European Heron	" cinerea	A.V.
196	American Egret	Herodias egretta	92
197	Snowy Egret	Egretta candidissima candidissima	92
197*a*	Brewster's Egret	" " brewsteri	294
198	Reddish Egret	Dichromanassa rufescens	94
199	Louisiana Heron	Hydranassa tricolor ruficollis	94
200	Little Blue Heron	Florida cærulea	94
201	Green Heron	Butorides virescens virescens	94
201*a*	Frazar's Green Heron	" " frazari	94
201*b*	Anthony's Green Heron	" " anthonyi	94
202	Black-crowned Night Heron	Nycticorax nycticorax nævius	93
203	Yellow-crowned Night Heron	Nyctanassa violacea	93

Order PALUDICOLÆ. Cranes, Rails, etc.

Family GRUIDÆ. CRANES.

204	Whooping Crane	Grus americana	96
205	Little Brown Crane	" canadensis	96
206	Sandhill Crane	" mexicana	96

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
	Family ARAMIDÆ. COURLANS.		
207	Limpkin	Aramus vociferus	96
	Family RALLIDÆ. RAILS, GALLINULES, AND COOTS.		
208	King Rail	Rallus elegans	97
209	Belding's Rail	" beldingi	97
210	California Clapper Rail	" obsoletus	97
210.1	Light-footed Rail	" levipes	294
211	Clapper Rail	" crepitans crepitans	98
211*a*	Louisiana Clapper Rail	" " saturatus	98
211*b*	Florida Clapper Rail	" " scotti	98
211*c*	Wayne's Clapper Rail	" " waynei	98
211.2	Caribbean Clapper Rail	" longirostris caribæus	98
212	Virginia Rail	" virginianus	97
[213]	Spotted Crake	Porzana porzana	A.V.
214	Sora	" carolina	98
215	Yellow Rail	Coturnicops noveboracensis	97
216	Black Rail	Creciscus jamaicensis	98
216.1	Farallon Rail	" coturniculus	294
[217]	Corn Crake	Crex crex	A.V.
218	Purple Gallinule	Ionornis martinicus	99
219	Florida Gallinule	Gallinula galeata	99
[220]	European Coot	Fulica atra	A.V.
221	Coot	" americana	99
	Order LIMICOLÆ. Shore Birds		
	Family PHALAROPODIDÆ. PHALAROPES.		
222	Red Phalarope	Phalaropus fulicarius	102
223	Northern Phalarope	Lobipes lobatus	102
224	Wilson's Phalarope	Steganopus tricolor	102
	Family RECURVIROSTRIDÆ. AVOCETS AND STILTS.		
225	Avocet	Recurvirostra americana	103
226	Black-necked Stilt	Himantopus mexicanus	105
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656*a*	Black-fronted Warbler	" " nigrifrons	190
657	Magnolia Warbler	" magnolia	190
658	Cerulean Warbler	" cerulea	181
659	Chestnut-sided Warbler	" pensylvania	198
660	Bay-breasted Warbler	" castanea	206
661	Black-poll Warbler	" striata	249
662	Blackburnian Warbler	" fusca	187
663	Yellow-throated Warbler	" dominica dominica	190
663*a*	Sycamore Warbler	" " albilora	190

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
664	Grace's Warbler	Dendroica graciæ	190
665	Black-throated Gray Warbler	" nigrescens	249
666	Golden-cheeked Warbler	" chrysoparia	188
667	Black-throated Green Warbler	" virens	188
668	Townsend's Warbler	" townsendi	188
669	Hermit Warbler	" occidentalis	188
670	Kirtland's Warrbler	" kirtlandi	191
671	Pine Warbler	" vigorsi vigorsi	191
672	Palm Warbler	" palmarum palmarum	196
672*a*	Yellow Palm Warbler	" " hypochrysea	197
673	Prairie Warbler	" discolor	197
674	Oven-bird	Seiurus aurocapillus	232
675	Water-Thrush	" noveboracensis noveboracensis	232
675*a*	Grinnell's Water-Thrush	" noveboracensis notabilis	232
676	Louisiana Water-Thrush	" motacilla	232
677	Kentucky Warbler	Oporornis formosus	193
678	Connecticut Warbler	" agilis	189
679	Mourning Warbler	" philadelphia	189
680	Macgillivray's Warbler	" tolmiei	189
681	Maryland Yellow-throat	Geothlypis trichas trichas	193
681*a*	Western Yellow-throat	" " occidentalis	193
681*b*	Florida Yellow-throat	" " ignota	194
681*c*	Pacific Yellow-throat	" " arizela	194
681*e*	Salt Marsh Yellow-throat	" " sinuosa	194
682	Belding's Yellow-throat	" beldingi	194
682.1	Rio Grande Yellow-throat	Chamæthlypis poliocephala	194
683	Yellow-breasted Chat	Icteria virens virens	198
683*a*	Long-tailed Chat	" " longicauda	198
684	Hooded Warbler	Wilsonia citrina	188
685	Wilson's Warbler	" pusilla pusilla	193
685*a*	Pileolated Warbler	" " pileolata	193
685*b*	Golden Pileolated Warbler	" " chryseola	193
686	Canadian Warbler	" canadensis	191
687	American Redstart	Setophaga ruticilla	187
688	Painted Redstart	" picta	177
690	Red-faced Warbler	Cardellina rubrifrons	177

Family MOTACILLIDÆ. WAGTAILS AND PIPITS.

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
[694]	White Wagtail	Motacilla alba	A.V.
[695]	Swinhoe Wagtail	" ocularis	A.V.
696	Alaska Yellow Wagtail	Budytes flavus alascensis	192
697	Pipit	Anthus rubescens	232
[698]	Meadow Pipit	" pratensis	A.V.
[699]	Red-throated Pipit	" cervinus	A.V.
700	Sprague's Pipit	" spragueï	232

Family CINCLIDÆ. DIPPERS.

701	Dipper	Cinclus mexicanus unicolor	247

Family MIMIDÆ. THRASHERS, MOCKINGBIRDS, ETC.

702	Sage Thrasher	Oreoscoptes montanus	233
703	Mockingbird	Mimus polyglottos polyglottos	248
703*a*	Western Mockingbird	" " leucopterus	248
704	Catbird	Dumetella carolinensis	247
705	Brown Thrasher	Toxostoma rufum	233
706	Sennett's Thrasher	" longirostre sennetti	233
707	Curve-billed Thrasher	" curvirostre curvirostre	216
707*a*	Palmer's Thrasher	" " palmeri	216
708	Bendire's Thrasher	" bendirei	216
709	San Lucas Thrasher	" cinereum cinereum	216
709*a*	Mearns's Thrasher	" " mearnsi	216
710	California Thrasher	" redivivum redivivum	217
711	Leconte's Thrasher	" lecontei lecontei	217
711*a*	Desert Thrasher	" " arenicola	217
712	Crissal Thrasher	" crissale	217

Family TROGLODYTIDÆ. WRENS.

713	Cactus Wren	Heleodytes brunneicapillus couesi	233
713*a*	Bryant's Cactus Wren	" " bryanti	233
713*b*	San Lucas Cactus Wren	" " affinis	233
715	Rock Wren	Salpinctes obsoletus obsoletus	234
715*a*	San Nicolas Rock Wren	" " pulverius	301
716	Guadalupe Rock Wren	" guadeloupensis	234
717	White-throated Wren	Catherpes mexicanus albifrons	234
717*a*	Cañon Wren	" " conspersus	234
717*b*	Dotted Cañon Wren	" " punctulatus	234

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
718	Carolina Wren	Thryothorus ludovicianus ludovicianus	234
718*a*	Florida Wren	" " miamensis.	234
718*b*	Lomita Wren	" " lomitensis.	234
719	Bewick's Wren	Thryomanes bewicki bewicki	235
719*a*	Vigors's Wren	" " spilurus	235
719*b*	Baird's Wren	" " bairdi	235
719*c*	Texas Bewick's Wren	" " cryptus	235
719*d*	San Diego Bewick's Wren	" " charienturus	235
719*e*	Seattle Bewick's Wren	" " calophonus	235
719.1	San Clemente Wren	" leucophrys	235
720	Guadalupe Wren	" brevicauda	235
721	House Wren	Troglodytes aëdon aëdon	236
721*a*	Western House Wren	" " parkmani	236
722	Winter Wren	Nannus hiemalis hiemalis	236
722*a*	Western Winter Wren	" " pacificus	236
722*b*	Kadiak Winter Wren	" " helleri	236
723	Alaska Wren	" alascensis	236
723.1	Aleutian Wren	" meliger	236
724	Short-billed Marsh Wren	Cistothorus stellaris	236
725	Long-billed Marsh Wren	Telmatodytes palustris palustris	237
725a	Tule Wren	" " paludicola	237
725*b*	Worthington's Marsh Wren	" " griseus	237
725*c*	Western Tule Wren	" " plesius	237
725*d*	Prairie Marsh Wren	" iliacus	301
725*e*	Marian's Marsh Wren	" marianæ	237

Family CERTHIIDÆ. CREEPERS.

726	Brown Creeper	Certhia familiaris americana	237
726*a*	Mexican Creeper	" " albescens	237
726*b*	Rocky Mountain Creeper	" " montana	237
726*c*	California Creeper	" " occidentalis	237
726*d*	Sierra Creeper	" " zelotes	237

Family SITTIDÆ. NUTHATCHES.

727	White-breasted Nuthatch	Sitta carolinensis carolinensis	246
727*a*	Slender-billed Nuthatch	" " aculeata	246
727*b*	Florida White-breasted Nuthatch	" " atkinsi	246
727*c*	Rocky Mountain Nuthatch	" " nelsoni	246
727*d*	San Lucas Nuthatch	" " lagunæ	246

Family SITTIDÆ. NUTHATCHES.

A.O.U No.	COMMON NAME	SCIENTIFIC NAME	PAGE
728	Red-breasted Nuthatch	Sitta canadensis	246
729	Brown-headed Nuthatch	" pusilla	246
730	Pygmy Nuthatch	" pygmæa pygmæa	246
730*a*	White-naped Nuthatch	" " leuconucha	247

Family PARIDÆ. TITMICE.

731	Tufted Titmouse	Bæolophus bicolor	243
732	Black-crested Titmouse	" atricristatus atricristatus	242
732*a*	Sennett's Titmouse	" " sennetti	303
733	Plain Titmouse	" inornatus inornatus	242
733*a*	Gray Titmouse	" " griseus	242
733*b*	Ashy Titmouse	" " cineraceus	242
734	Bridled Titmouse	" wollweberi	244
735	Chickadee	Penthestes atricapillus atricapillus	245
735*a*	Long-tailed Chickadee	" " septentrionalis	245
735*b*	Oregon Chickadee	" " occidentalis	245
735*c*	Yukon Chickadee	" " turneri	303
736	Carolina Chickadee	" carolinensis carolinensis	245
736*a*	Plumbeous Chickadee	" " agilis	245
736*b*	Florida Chickadee	" " impiger	303
737	Mexican Chickadee	" sclateri	245
738	Mountain Chickadee	" gambeli gambeli	244
738*a*	Bailey's Mountain Chickadee	" " baileyæ	303
739	Alaska Chickadee	" cinctus alascensis	244
740	Hudsonian Chickadee	" hudsonicus hudsonicus	244
740*a*	Acadian Chickadee	" " littoralis	244
741	Chestnut-backed Chickadee	" rufescens rufescens	244
741*a*	California Chickadee	" " neglectus	244
741*b*	Barlow's Chickadee	" " barlowi	244
741*c*	Valdez Chestnut-sided Chickadee	" " vivax	303
743	Bush-Tit	Psaltriparus minimus minimus	242
743*a*	California Bush-Tit	" " californicus	242
743*b*	Grinda's Bush-Tit	" " grindæ	242
744	Lead-colored Bush-Tit	" plumbeus	242
745	Lloyd's Bush-Tit	" melanotis lloydi	242
746	Verdin	Auriparus flaviceps flaviceps	195
746*a*	Cape Verdin	" " lamprocephalus	196

Family CHAMÆIDÆ. Wren-Tits.

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	Page
742	Wren-Tit	Chamæa fasciata fasciata	215
742*a*	Pallid Wren-Tit	" " henshawi	215
742*b*	Coast Wren-Tit	" " phæa	300
742*c*	Ruddy Wren-Tit	" " rufula	300

Family SYLVIIDÆ. Warblers, Kinglets, Gnatcatchers.

747	Kennicott's Willow Warbler	Acanthopneuste borealis	212
748	Golden-crowned Kinglet	Regulus satrapa satrapa	187
748*a*	Western Golden-crowned Kinglet	" " olivaceus	187
749	Ruby-crowned Kinglet	" calendula calendula	176
749*a*	Sitkan Kinglet	" " grinnelli	176
750	Dusky Kinglet	" " obscurus	177
751	Blue-gray Gnatcatcher	Polioptila cærulea cærulea	243
751*a*	Western Gnatcatcher	" " obscura	243
752	Plumbeous Gnatcatcher	" plumbea	243
753	Black-tailed Gnatcatcher	" californica	243

Family TURDIDÆ. Thrushes, Solitaires, Stonechats, Bluebirds, etc.

754	Townsend's Solitaire	Myadestes townsendi	247
755	Wood Thrush	Hylocichla mustelina	233
756	Veery	" fuscescens fuscescens	238
756*a*	Willow Thrush	" " salicicola	238
757	Gray-cheeked Thrush	" aliciæ aliciæ	239
757*a*	Bicknell's Thrush	" " bicknelli	239
758	Russet-backed Thrush	" ustulata ustulata	239
758*a*	Olive-backed Thrush	" " swainsoni	239
759	Alaska Hermit Thrush	" guttata guttata	238
759*a*	Audubon's Hermit Thrush	" " auduboni	238
759*b*	Hermit Thrush	" " pallasi	238
759*c*	Dwarf Hermit Thrush	" " nana	238
759*d*	Monterey Hermit Thrush	" " slevini	302
759*e*	Sierra Hermit Thrush	" " sequoiensis	302
[760]	Red-winged Thrush	Turdus musicus	A.V.
761	Robin	Planesticus migratorius migratorius	207
761*a*	Western Robin	" " propinquus	207
761*b*	Southern Robin	" " achrusterus	207
762	San Lucas Robin	" confinis	207

A.O.U. No.	COMMON NAME.	SCIENTIFIC NAME.	PAGE
763	Varied Thrush	Ixoreus nævius nævius	207
763*a*	Northern Varied Thrush	" " meruloides	207
[764]	Siberian Red-spotted Bluethroat.	Cyanosylvia suecica robusta	A.V.
[764.1]	Greater Kamchatkan Nightingale	Calliope calliope camtschatkensis	A.V.
765	Wheatear	Saxicola œnanthe œnanthe	248
765*a*	Greenland Wheatear	" " leucorhoa	248
766	Bluebird	Sialia sialis sialis	182
766*a*	Azure Bluebird	" " fulva	182
767	Western Bluebird	" mexicana occidentalis	182
767*a*	Chestnut-backed Bluebird	" " bairdi	182
767*b*	San Pedro Bluebird	" " anabelæ	182
768	Mountain Bluebird	" currucoides	182

APPENDIX I

ADDITIONS, SUBTRACTIONS, AND EMENDATIONS.

Since the publication of the first edition of the 'Color Key' in 1903, the American Ornithologists' Union has issued the Third Edition (1910) of its 'Check-List of North American Birds.' This includes all approved additions to and changes in the preceding edition made since 1903 as well as rulings on a number of cases which were in abeyance at the time the first edition of the 'Color Key' appeared.

Mere changes in nomenclature not affecting the status of a species are given without comment in the preceding Systematic Table, which has been fully revised and brought up to date. To ascertain the correct, current name of any species or subspecies of North American bird the student, after determining its identity in the 'Color Key,' has only to refer to its number in the Systematic Table to learn whether any change has been made in nomenclature. In addition to actual changes in nomenclature due to the detection of errors in earlier names, it should be noted that a third name or trinomial is now employed for each race of a species, and also that an apostrophe is used in connection with the names of birds named for individuals. Throughout the 'Color Key,' therefore, alterations should be made when required by these two changes in method.

All other changes than these simple ones of names are included, with explanations, in this appendix, and the student is urged to make manuscript cross-references on the pages where such changes occur to avoid their being overlooked.

As far as possible the language of the original describer of the new subspecies of birds is here quoted, while the Ranges are mainly from the A. O. U. Check-List.

References to original sources of publication are given only with cases included in the first supplement to the Third Edition (1910) of the 'Check List. In all other instances reference to the original place of description etc., is contained in the 'Check-List.'

Additions, Subtractions, Emendations

Page 29, 127. The North American Kites, Hawks, Falcons, Eagles, etc., are now placed in three families instead of one, as follows: BUTEONIDÆ, containing the Kites, Hawks and Eagles (Nos. 327-352a); FALCONIDÆ, containing the Falcons and Caracaras (Nos. 353-363), and PANDIONIDÆ, containing the Osprey (No. 364).

Pages 39, 162, 168. The subfamilies Troglodytinæ and Miminæ are now elevated to full family rank. The Mockingbirds and Thrashers (Nos.702-712) are therefore the North American members of the Family MIMIDÆ; and the Wrens (Nos. 713-725e) the North American members of the Family TROGLODYTIDÆ.

Pages 39, 162, 169. The subfamilies Sittinæ and Parinæ are now elevated to full family rank. The Nuthatches (Nos. 727 to 730a) are therefore the North American members of the Family SITTIDÆ; and the Titmice (Nos. 732 to 746a, except Nos. 742 to 742c now placed in the Family CHAMÆIDÆ, see beyond) the North American members of the Family PARIDÆ.

Page 63. Cancel No. 94, *Puffinus fuliginosus*, which proves to be the same as No. 95, *Puffinus griseus*. The common name, however, is retained and the species stands 95. **Sooty Shearwater** (*Puffinus griseus*). Characters as given.

Range.—Oceans of Southern Hemisphere; occurs in summer on the Pacific coast from southern Alaska to Lower California, and on the Atlantic coast from Gulf of St. Lawrence to South Carolina.

Page 77. But one form of the Black Duck is recognized by the A. O. U. It stands os No. 133. Black Duck (*Anas rubripes*), which name, therefore, includes both Nos. 133 and 133a.

Page 92. After No. 197 add: **197a. Brewster's Egret** (*Egretta candidissima brewsteri*). Similar to No. 197 "but larger, bill longer, tarsus longer, and whole leg *very much* heavier or thicker." ♂. Tar. 4.36; B. 3.60. ♀. Tar. 4.00; B. 3.42. (Thayer and Bangs)

Range.—"Southern Lower California" (A. O. U.).

Page 97. After No. 210 add: **210.1. Light-footed rail** (*Rallus levipes*). "Much smaller than either *R. obsoletus* or R. *beldingi*, bill much re slender tarsus and foot smaller than in either; superciliary white in d of rusty. . . ." W. 5.70; T. 2.24; Tar. 1.81; B. 2.24. (Bangs).

Range.—"Marshes of southern California, from Santa Bar south to San Quintin Bay, Lower California; accidental in Arizona." (A. O. U.

Page 98. After No. 216 add: **216.1. Farallon Rail** (*Creci us coturniculus*). "Smaller [than No. 216] with much slenderer bill; the plum eous of the under parts deeper, the chestnut-brown of the upper parts brighter and more extended, forming a broader patch on the nape and tinging more or less strongly and generally much of the top of the head where there is often no pure unmixed plumbeous or slaty save on the forehead." (Brewster).

Range.—"Pacific coast of United States. Breeds in coast marshes of California; casual in Washington, Oregon and Lower California" (A. O. U.).

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Page 103. After 266 add: **268. Bristle-thighed Curlew** (*Numenius tahitiensis*). Somewhat like *N. hudsonicus*, but thighs with long bristle-like feathers; tail pale rusty, barred with black; markings of back and wings pale rusty.

Range.—"Alaska and Pacific Islands. Breeding range unknown; has been taken in summer in western Alaska from Kowak River to Kenai Peninsula; also on Laysan and Phœnix Islands; winters in inlands of the South Pacific from Hawaii to New Caledonia" (A. O. U.). Classed with Accidental Visitants in first edition of 'Color Key.'

Page 112. Cancel No. 277a, Belted Piping Plover, which proves to be the same as No. 277, Piping Plover.

Page 117. After No. 297b add: **297c. Sierra Grouse** (*D. o. sierræ*). Male resembles male of No. 297, but back less black and more heavily vermiculated with brown and gray; terminal tail-band narrower and more speckled with blackish; median tail-feathers more heavily marked with gray or brownish; white neck-tufts practically absent; feathers of sides, flanks and under tail-coverts with less white. Much paler and more heavily vermiculated above than No. 297b.

Range.—Ft. Klamath, Oregon south through the Sierras to Mount Pinos in South California.

Page 117. The ranges of the races of this bird (now known as Spruce Partridge, rather than Spruce Grouse) are given in the A. O. U. 'Check-List' as follows:

298. Hudsonian Spruce Partridge (*Canachites canadensis canadensis*).

Range.—"Boreal forest region from the eastern base of the Rocky Mountains west of Edmonton, Alberta, east to Labrador Peninsula; also a disconnected area in Alaska from Bristol Bay to Cook Inlet and Prince William Sound."

298b. Alaska Spruce Partridge (*C. c. osgoodi*).

Range.—"Mt. McKinley and the Yukon region east to Great Slave and Athabaska lakes."

298c. Canada Spruce Partridge (*C. c. canace*).

Range.—"Manitoba, southern Ontario, and New Brunswick south to northern parts of Minnesota, Wisconsin, Michigan, New York, and New England."

Page 119. After No. 301a add: **301b. Alexander's Ptarmigan** (*L. l. alexandræ*). Similar to *L. l lagopus* in corresponding plumage, "but coloration darker throughout, especially dorsally; bill smaller and relatively much narrower." (Grinnell).

Range.—Baranof and adjacent islands west to Shumagin Islands (A. O. U.).

Page 119. After No. 301b. add: **301c. Ungava Ptarmigan** (*L. l. ungavus*). Like No. 301 but with a heavier bill. Culmen, .82; depth of bill at base, 57 (Riley, Proc. Biol. Soc. Wash., XXIV, 1911, p. 233).

Range.—Ungava and probably the eastern shore of Hudson Bay.

Page 120. Remove the interrogation points from before Nos. 304 and 304a, the distinctions between which there presented having been accepted by the

A. O. U., and amend Range of No. 304a. to read: "Alpine summits from central Alaska, northern Yukon, and northwestern Mackenzie south to Cook Inlet region, Kenai Peninsula and southern Yukon" (A. O. U.).

Page 120. After No. 302e. add: **302f. Dixon's Ptarmigan** (*L. r. dixoni*). Resembling *L. r. nelsoni* in corresponding plumage, "but much darker; in extreme blackness of coloration nearly like *Lagopus evermanni*, but feathers of chest and back more or less finely vermiculated with hazel." (Grinnell).

Range.—Islands near Sitka.

Page 120. After No. 302d. add: **302e. Adak Ptarmigan** (*L. r. chamberlaini*). Nearest *L. r. townsendi* but with finer vermiculations above, and with black bars on neck and upper back reduced to very narrow bars or vermiculations. Grayest of the Aleutian Ptarmigan. (Clark).

Range.—Island of Adak, Aleutian Chain.

Page 122. A change here in enumeration makes Merriam's Turkey No. 310, while the Wild Turkey (*M. g. silvestris*) becomes 310a.

Page 125. After No. 316 add: **316a. Western Mourning Dove** (*Z. m. marginella*). Similar to *Z. m. carolinensis* but paler. (Mearns', Auk, 1911, p. 490).

Range.—"Pacific Coast and San Clemente Island east to Mississippi Valley" (A. O. U.). The range of No. 316 should be correspondingly restricted.

Page 126. After No. 319 add: **319a. White-winged Dove** (*M. a. trudeaui*). Similar to *M. a. asiatica* but "slightly larger, with a much longer bill and much paler coloration" (Mearns, Auk, 1911, p. 489).

Range.—"Lower California, southern Arizona, southwestern New Mexico and southern Texas, south to Costa Rica. Casual in southeastern California and Colorado; accidental in Washington" (A. O. U.).

Page 126. No. 319 becomes West Indian White-winged Dove (*Melopelia asiatica asiatica*). Its Range includes Cuba and Jamaica, and it is of casual occurrence in the Bahamas and Florida.

Page 132. After No. 337d. add: **337e. Alaska Red-tail** (*B. b. alascensis*) Resembling *B. b. calurus* "but smaller throughout, and, keeping in consideration the stage of plumage, dark areas blacker and more extended." ♂ W. 13.5; T. 7.67; ♀ W. 14.44; T. 8.69 (Grinnell).

Range.—"Southeastern Alaska from Yakutat Bay to Admiralty Island and the Sitka Islands" (A. O. U.).

Page 138. After No. 360b. add: **360c. Little Sparrow Hawk** (*F. s. paulus*). Similar to No. 360 but smaller. ♂ W. 6.80; T. 4.12 ♀ W. 6.96; T. 4.00 (Howe).

Range.—Southern half of Florida.

Page 140. No. 379 proves to be separable into southern and northern races. The former retains the name *Glaucidium gnoma gnoma*, while the race of northern Mexico and western United States, heretofore known by that name, becomes

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G. g. pinicola, the Rocky Mountain Pygmy Owl. (Nelson, Proc. Biol. Soc. Wash., XXIII, 1910, p. 103).

Page 142. After No. 373h. add: **373i. Sahauro Screech Owl** (*O. a. gilmani*). Nearest No. 373f but smaller and paler and with black markings more restricted (Swarth, Univ. Cal. Pub. Zool., VII, 1910, p. 1).

Range.—"Lower Sonoran life zone of southeastern California, Arizona, and probably New Mexico; and northwestern Mexico" (A. O. U.).

Page 143. After No. 375f. add: **375g. Saint Michael Horned Owl** (*B. v. algistus*). Similar to No. 375d. but larger; face less ochraceous, upper surface paler ochraceous. W. 14.60 (Oberholser).

Range.—"Coast Region of northern Alaska from Bristol Bay and the Yukon northward" (A. O. U.).

Page 143. After No. 275e add: **375f. Labrador Horned Owl** (*B. v. heterocnemis*). Similar to No. 375c. "but bill larger; posterior lower parts paler; feet lighter colored and less heavily spotted; upper parts with usually less ochraceous." (Oberholser).

Range.—"Northern Ungava and Labrador" (A. O. U.).

Page 147. After No. 390 add: **390a. Northwestern Belted Kingfisher** (*C. a. caurina*). Similar to No. 370 "but size greater, especially measurements of flight-feathers." W. 6.54 (Grinnell, Univ. Calif. Pub. Zool., V. 1910, p. 388).

Range.—Northwestern America, south along the Pacific coast in winter. Status of California breeding birds still undetermined. (Grinnell, Univ. Cal. Pub. Zool., V, 1910, p. 389).

Page 150. After No. 393f. add: **393g. Newfoundland Woodpecker** (*D. v. terrænovæ*). Similar to *D. v. villosus*. "but slightly larger, the black areas of the upperparts increased, the white areas reduced both in number and in size, especially in the remiges and wing-coverts." (Batchelder).

Range.—Newfoundland.

Page 150. After No. 393e. add: **393h. White-breasted Woodpecker** (*D. v. leucothorectis*). "Much like No. 393e. but decidedly smaller; wing-coverts practically always without white spots." W. 4.83; T. 3.07; B. 1.10 (Oberholser, Proc. U. S. N. M. 40, 1908, p. 608).

Range.—"Canadian and Transition Zones, from southern Utah, northwestern and central New Mexico and extreme southwestern Texas, south to the mountains of western Zacatecas, Mexico" (A. O. U.).

Page 151. After No. 396a. add: **396b. San Fernando Woodpecker** (*D. s. eremicus*). Similar to No. 396a, but larger; lower surface darker; upperparts darker, the white bars on back averaging narrower and less regular, the neck bars wider; black bars on posterior lower parts averaging somewhat wider." ♂ W. 4.16; T. 2.67; B. 1.02 (Oberholser, Proc. U. S. N. M., 41, 1911, p. 151).

Range.—Lower California, north of Ukai and Plaia Maria Bay, except extreme northeastern portion" (A. O. U.). The Range of No. 396a is thus restricted to the southern half of Lower California.

Page 351. *Dryobates scalaris bairdi* proves to be restricted to Mexico; No. 396, its representative in the southwestern United States, has been named

Cactus Woodpecker (*D. s. cactophilus*). (Oberholser, Proc. U. S. N. M., 41, 1911, p. 152).

Page 154. After No. 414a. add: **414b. Mearns's Gilded Flicker** (*C. c mearnsi*). Similar to *C. c. chrysoides* but decidedly larger and paler, with pileum more strongly cinnamomeus, black bars on back, etc., narrower, spots on outer web of primaries more conspicuous (primary coverts also sometimes spotted, gray of throat, etc. lighter, and spots on underparts usually smaller. W. 5.74; T. 3.77; B. 1.39 (Ridgway).

Range.—"Extreme southwestern California, northern Lower California and southern Arizona south to southern Sonora" (A. O. U.). The Range of No. 414 is now restricted to "southern Lower California," that of No. 414 to "middle Lower California."

Page 160. After No. 439 add: **391.1 Salvin's Hummingbird** (*Uranomitra salvini*). Ad. ♂. Head glittering blue; back dark shining green; tail dark glossy green, outer pair of feathers broadly tipped with drab; below soiled white, throat tinged with clayey white, sides of throat spotted with blue; sides of breast greenish blue; sides of body brilliant green. W. 2.07; T. 1.27; B. 1.02 (Brewster). Yng. ♀. Similar but duller, rump edged with rusty; sides of body brownish gray (Bishop).

Range.—"Huachuca Mountains, southern Arizona, and eastern Sonora (only two specimens known" (A. O. U.).

Pages 162 and 166. The Waxwings alone new compose the Family BOMBYCILLIDÆ (formerly AMPELIDÆ) while the Phainopepla is placed in the Family PTILOGONATIDÆ.

Pages 162 and 169. The subfamily Chamæinæ is now elevated to full family rank and stands as Family CHAMÆIDÆ, Wren-Tits. It contains solely the Wren-Tits, (Nos. 742 to 742c) the only family of birds restricted to North America.

Page 178. After No. 498f. add: **498g. Vera Cruz Red-wing** (*A. p. richmondi*). Similar to *A. p. floridanus* but slightly smaller; adult female much lighter colored (resembling female of *A. p. sonoriensis*), about intermediate in color between females of *A. p. floridanus* and *A. p. bryanti*. ♂ W. 4.40; T. 3.22; B. .90; depth of B. at base, .44. ♀ W. 3.61; T. 2.67; B. .77; depth of B. at base, .39.

Range.—"Southern coast and Lower Rio Grande Valley of Texas south through eastern Mexico to Yucatan and eastern Guatemala; winters south to eastern Nicaragua and Costa Rica." (A. O. U.).

Page 185. After No. 478d add: **478e. Coast Jay** (*C. s. carbonacea*). "Intermediate in size and coloration between *C. s. stelleri* and *C. stelleri* frontalis. Dorsal surface sooty black as in *stelleri*, but with blue on forehead nearly as extended as in *frontalis*. Tint of blue of posterior lower parts paler than in *stelleri*, and extending further forward into pectoral region as in *frontalis*" (Grinnell).

Range.—"Breeds in the humid Pacific coast strip from southern Oregon to the

Santa Lucia mountains, California and east to the mountains on the west side of Napa Valley; in winter east to the Gabilan and Mt. Diablo ranges" (A. O. U.).

Page 192. Cancel No. 530b, United States specimens of which prove to be merely adults of No. 530. Further west, however, black-backed birds are not found, and this western bird has been described as new. Consequently after No. 530, add: **430a. Green-backed Goldfinch** (*A. p. hesperophilus*). Similar to *A. p. psaltria* "but ear-coverts, sides of neck, with back, nape, and rump, in fully adult plumage, olive-green instead of black" (Oberholser). Fig. 530 represents this race.

Range.—"Southwestern United States. Breeds from southern Oregon and Utah to southern Lower California, Sonora and extreme southwestern New Mexico; winters from central California to Cape San Lucas" (A. O. U.).

The Range of *A. p. psaltria* is therefore restricted to "northern Colorado to central northern Texas and south throughout Mexico, except in northwestern and extreme southern portions; casual in Wyoming." (A. O. U.).

Page 194. Cancel No. 618d, Northern Yellow-throat, which proves to be the same as No. 681, Maryland Yellow-throat.

Page 196. After No. 652b. add: **652c. California Yellow Warbler** (*D.æ. brewsteri*). Differs from *D. æ. æstiva* "in similar size, paler (or less brightly yellow) coloration and, in the male, narrower streaking on under surface." Differs from *D. æ. rubiginosa* "in much smaller size and yellower coloration," and "from *D. æ. sonorana* in smaller size and darker coloration." ♂ W. 2.45; T. 1.96. ♀ W. 2.33; T. 1.93 (Grinnell).

Range.—Pacific Coast, west of the Cascades, and the Sierra Nevada from Washington to southern California. (The range of *D. æ. æstiva* is correspondingly restricted).

Page 210. Cancel No. 464.2, Santa Barbara Flycatcher, which proves to be the same as No. 464, Western Flycatcher.

Page 211. Cancel No. 472a, Ridgway's Flycatcher, which proves to be the same as No. 472, Beardless Flycatcher.

Page 212. After No. 632c. add: **632a. Frazar's Vireo** (*V. h. cognatus*). Similar to *V. h. stephensi*, but wing averaging decidedly shorter, tarsus longer, and coloration paler. Wing, 2.48; Tar. .74 (Ridgway).

Range.—"Cape San Lucas district of Lower California (Sierra de la Laguna; Victoria Mountains); resident" (Ridgway).

Page 214. After No. 633a. add: **633b. Texas Vireo** (*V. b. medius*). "Similar to *V. b. belli*, but coloration paler and tail averaging longer; pileum and hind-neck brownish gray instead of grayish brown; olive of back, etc. grayer; under-parts whiter with olive-yellow of sides and flanks much paler; under tail-coverts and axillars white, yellowish white, or very pale sulphur yellow" (Ridgway).

Range.—"Southwestern Texas (Presidio, Brewster and Kinney Counties) south to Coahuila and Guanajuato, central Mexico" (A. O. U.).

Additions, Subtractions, Emendations

Pages 215, 216. The Wren-Tits have been revised and their ranges more correctly defined, and to the two forms given two more have been added. The four races now recognized stands as follows: **742. Wren-Tit** (*Chamæa fasciata fasciata*). Characters as described and figured.

Range.—"Upper Sonoran zone on the eastern and southern shores of San Francisco Bay and adjacent Santa Clara Valley" (A. O. U.).

742a. Pallid Wren-Tit (*C. f. henshawi*). Similar to C. *f. fasciata*, "but decidedly paler, the back, scapulars, rump, etc. grayish brown (deep hair-brown), the pileum and hind-neck brownish gray (nearly mouse-gray or deep smoke gray), and general color of underparts varying from very pale grayish buff to buffy ecru-drab, or pale vinaceous-buff, fading to nearly white on lower abdomen" (Ridgway).

Range.—"Upper Sonoran Zone of foothills and valleys of interior and southern California from Shasta County south to northern Lower California, and along the coast from Monterey Bay southward" (A. O. U.).

742b. Coast Wren-Tit (*C. f. phæa*). Characters as stated on page 216.

Range.—"Humid Transition Zone of Pacific Coast of Oregon and northern California (from Columbia River to Humboldt Bay)" (A. O. U.).

742c. Ruddy Wren-Tit (*C. f. rufula*). Intermediate in color between No. 742 and No. 742b. More richly colored than the former, but not so dark as the latter.

Range.—"Humid Transition coast strip of California from southern Humboldt County to Santa Cruz" (A. O. U.).

Page 217. Cancel No. 710a. Pasadena Thrasher, which proves to be the same as No. 710 California Thrasher.

Page 223. After No. 542b, add: **542d. Nevada Savannah Sparrow** (*P. s. nevadensis*). Resembles *P. s. alaudinus* "but much paler throughout in all plumages; white replacing buff, black streaks thus more conspicuously contrasted, there being a minimum amount of hazel marginings; size slightly less." Differs from *P. s. savanna* 'as above, but in greater degree" (Grinnell, Univ. Calif. Pub. Zool. V, 1910, p. 312).

Range.—"Humboldt and Washoe Counties, Nevada, and probably throughout Great Basin, south in winter to the Colorado Desert and Los Angeles Co., California" (A. O. U.).

Page 228, after No. 574b (which, as shown in the Systematic Table, now becomes 574.1a) add: **574.1b. California Sage Sparrow** (*Amphispiza nevadensis canescens*). Similar to *Amphispiza belli* but size somewhat greater, and coloration throughout very much paler; resembles *Amphispiza nevadensis nevadensis*, but size very much less, and coloration slightly darker. ♂ W. 2.79; T. 3.03. ♀ W. 2.63; T. 2.87 (Grinnell).

Range.—"Upper Sonoran Zone in Owens Valley and adjacent areas in eastern California and extreme western Nevada" (A. O. U.).

Page 229. After No. 581c. add: **581s. Suisun Song Sparrow** (*M. m. maxil-*

caris). Size of *M.m. heermanni*; but black streakings everywhere broader, and the general tone of coloration darker; larger than *M. m. samuelis* and with brown more extended and deeper in tone (bay rather than hazel; unique in having the base of the maxilla inflated or swollen with "lateral bulbosities" (Grinnell).

Range.—Marshes bordering Suisun Bay, Solano Co., California.

Page 230. After No. 581d. add: **581p. Mendocino Song Sparrow** (*M. m. cleonensis*). Size of *M. m. samuelis* but lighter and more rusty; black markings of back more restricted; spots of breast broadly edged with rusty; black on side of head and neck almost entirely replaced by rusty or reddish brown" (McGregor).

Range.—"Coast strip of southern Oregon and northern California from Yaquina Bay, Oregon, to Tomales Bay, California" (A. O. U.).

Page 231. After No. 585d. add: **585e. Sooty Fox Sparrow** (*P. i. fuliginosa*). "Similar to *P. i. townsendi* but darker and less rufescent, the upperparts, sides of head and neck and lateral underparts sepia or sooty brown, the upper tail-coverts and tail slightly more castaneous; spots on underparts dark sooty brown, larger and more confluent than in other forms" (Ridgway).

Range.—"Northwest coast strip. Breeds on the coast of British Columbia, Vancouver Island and northwestern Washington; winters south along the coast to San Francisco, California" (A. O. U.).

No. 585f. Kadiak Fox Sparrow (*P. i. insularis*). "Similar to *P. i. unalaschensis* but much browner and more uniform above (back warm sepia), spots on chest, etc., larger and much deeper brown and under tail-coverts more strongly tinged with buff" (Ridgway).

Range.—"Alaska coast strip. Breeds on Kadiak Island and on the coast from Prince William Sound south to Cross Sound; winters along the coast to southern California" (A. O. U.).

Page 234. After No. 715 add: **715a. San Nicolas Rock Wren** (*S. o. pulverius*). Similar to *S. o. obsoletus* "but entire plumage, especially the upperparts, suffused with ochraceous or dust color, almost identical with the tint of the soil on San Nicholas Island" (Grinnell).

Range.—San Nicholas Island, California.

Page 236. Cancel No. 821b, *Troglodytes aëdon aztecus*, which proves to be the same as No. 721a, *T. a. parkmani*. The common name, Western House Wren, however, is retained in place of the common name Parkman's Wren.

Page 237. After No. 725c add: **725d. Prairie Marsh Wren** (*T. p. iliacus*). "Similar to *T. p. palustris*, but slightly larger and with the coloration more rufescent, the brown of the upperparts russet-brown to cinnamon-brown or russet, the flanks conspicuously deep cinnamon-buff or cinnamon" (Ridgway).

Range.—Plains and prairies of central North America. Breeds from central Alberta and southwestern Keewatin south to central Mississippi Valley and east to

Indiana; winters southward into Mexico and along the Gulf coast to western Florida (A. O. U.).

Page 238. After No. 759c add: **759d. Monterey Hermit Thrush** (*H. g. slevini*). General color extremely pale and ashy, nearly as much so as in *H. g. sequoiensis*; above hair-brown, slightly browner on top of head; upper tail-coverts and tail isabella color; spots on breast sepia, small in size and few in numbers. (Grinnell).

Range.—"Breeds in Transition Zone of the coast belt in California from northern Trinity County to southern Monterey County; south in migration to Lower California and Sonora" (A. O. U.).

759e. Sierra Hermit Thrush (*H. g. sequoiensis*). "Similar in coloration to *H. g slevini*, but decidedly larger and slightly darker or browner; similar to *H. g. guttata*, but larger, paler, and grayer; decidedly smaller." W. 3.65; T. 2.82. (Ridgway).

Range.—"Breeds in Boreal Zones from southern British Columbia to high mountains in southern California; south in migration and in winter to Lower California, western Texas, and northern Mexico" (A. O. U.).

Page 239. Cancel 758b, Monterey Thrush, and No. 758c, Alma Thrush, which are now considered to be the same as No. 758, Russet-backed Thrush.

Pages 240 and 241. The decisions of the A. O. U. Committee on numerous proposed changes in the standing of our Juncos were not published until after the first edition of the Color Key appeared. One new form (No. 567h) has been added to those therein given, one (*J. o. shufeldti*) has been omitted and the following changes have been made in nomenclature:

No. 568. *Junco mearnsi*, becomes No. 567g, *Junco hyemalis mearnsi*, and the Range of this form is now given as "Rocky Mountain region. Breeds from southwestern Saskatchewan to southern Idaho and northern Wyoming and Colorado to southern Arizona, southern New Mexico, and northeastern Sonora" (A. O. U.).

No. 567.1 *Junco montanus* becomes No. 567f. *Junco hyemalis montanus.*
No. 571.1 *Junco townsendi*, becomes No. 567i. *Junco hyemalis townsendi.*
No. 569 *Junco caniceps*, becomes No. 570b. *Junco phaeonotus caniceps.*
No. 570a. *Junco dorsalis*, becomes *Junco phaeonotus dorsalis.*
No. 567a. *Junco oreganus*, becomes *Junco hyemalis oreganus.*
No. 567c. *Junco oreganus thurberi*, becomes *Junco hyemalis thurberi.*
No. 567d. *Junco oreganus pinosus*, becomes *Junco hyemalis pinosus.*

The common name of all the preceding species remain unchanged.

No. 567b. Coues's Junco (*Junco oreganus connectens*) becomes Shufeldt's Junco (*Junco hyemalis connectens*), and this form also includes *J. o. shufeldti* of the 'Color Key,' which is therefore cancelled. The Range of 567b. thus stands as follows:

"Rocky Mountain region. Breeds from the coast of southern British Columbia east to west central Alberta and south to northern Oregon; winters over entire Rocky Mountain tableland to eastern Colorado, Arizona, New Mexico, western Texas, Chihuahua, and Sonora; casual in northern Lower California" (A. O. U.).

Appendix I

The one new form added follows No. 568, after which insert **567h. Ridgway's Junco** (*J. h. annectens*). Back with a reddish brown patch as in *J. p. caniceps*, but sides washed with pinkish brown, as in *J. h. mearnsi*.

Range.—"Wyoming, Colorado, Arizona, and New Mexico" (A. O. U.).

Page 242. Cancel No. 744.1, Santa Rita Bush-Tit, which proves to be the same as No. 745, Lloyd's Bush-Tit.

Page 243. Cancel No. 731a, Texan Tufted Titmouse, which proves to be the same as No. 731, Tufted Titmouse.

Page 243. After No. 732 add: **732a. Sennett's Titmouse** (*B. a. sennetti*). "Similar to *B. a. atricristatus*, but decidedly larger; upper parts much clearer gray, with little, if any olive tinge; adult female with crest feathers more often and more extensively tipped with gray, and both sexes with the forehead more often tinged with brown or rusty, sometimes deeply so" (Ridgway).

Range.—Central Texas, "from Tom Green and Concho Counties east to the Brazos River, and from Young County south to Nueces and Bee Counties" (A. O. U.).

Page 244. After No. 741b. add: **741c. Valdez Chestnut-sided Chickadee** (*P. r. vivax*). Like *P. r. rufescens* in coloration but larger, tail proportionately longer and bill bulkier. W. 2.48; T. 2.32 (Grinnell).

Range.—Prince William Sound Region, Alaska.

Page 244. Cancel 740a, Kowak Chickadee, and No. 740b, Columbian Chickadee, which prove to be the same as No. 740, Hudsonian Chickadee. *Parus h. littoralis* becomes No. 740a, Acadian Chickadee.

Page 244. After No. 738 add: **738a. Bailey's Mountain Chickadee** (*P. g. baileyæ*). Similar to *P. g. gambeli*, "but coloration dorsally and laterally more plumbeous, less brownish, and bill larger." B. 41 (Grinnell).

Range.—"Mountains of Great Basin region and northern Lower California. Breeds in Canadian and Transition Zones from the Maury Mountains, Oregon, south over Nevada and eastern California to the San Pedro Martir Mountains, Lower California" (A. O. U.).

Page 245. After No. 736a add: **736b. Florida Chickadee** (*P. c. impiger*). Similar to *P. c. carolinensis* but darker and decidedly smaller (except bill). W. 2.08; T. 1.81; B. .31 (Ridgway).

Range.—East central Florida.

Page 245. After No. 735b add: **735c. Yukon Chickadee** (*P. a. turneri*). "Similar to *P. a. septentrionalis* but slightly smaller, coloration grayer above and more extensively or purely white beneath, and white edgings of greater wing-coverts, secondaries, and outermost rectrices broader, more purely white" (Ridgway).

Range.—Alaska, north and west of Cook Inlet.

Page 248. After No. 622c. add the northeastern form of the Loggerhead Shrike, which is intermediate between *L. l. ludovicianus* and *L. l. excubitorides*

and has been separated as 622e. **Migrant Shrike** (*L. l. migrans*). Similar to *L. l. ludovicianus* but bill smaller and colors averaging paler. Not so pale as, and lacking the whitish upper tail-coverts of *L. l. excubitorides*.

Range.—"Eastern North America. Breeds chiefly in Transition and Upper Austral Zones from northern Minnesota, Wisconsin, Michigan, southern Ontario, southern Quebec, Maine, and New Brunswick, south to eastern Kansas, southern Illinois, Kentucky, western North Carolina and interior of Virginia (locally in the east); winters from Middle States and southern New England to Texas, Louisiana, and Mississippi" (A. O. U.).

The Range of the Loggerhead Shrike (No. 622) is therefore restricted to the South Atlantic and Gulf States from southern North Carolina south through Florida and west to Louisiana.

Page 250. After No. 612 add: 612a. **Lesser Cliff Swallow** (*P. l. tachina*). Similar to *P. l. lunifrons* but decidedly smaller, the forehead ochraceous instead of cream color. W. 4.08; T. 1.77 (Oberholser).

Range.—"Texas and Mexico. Breeds in western Texas, the Rio Grande Valley, and through eastern Mexico to Vera Cruz" (A. O. U.).

Page 250. No. 612.2 *Petrochelidon melanogastra*, becomes No. 612b, *Petrochelidon lunifrons melanogastra*.

Page 250. After No. 611.1 (which is now believed to be of only occasional occurrence in southern Florida) add: 611.2. **Gray-breasted Martin** (*Progne chalybea*). Male much like the female of *P. subis* but brighter, more uniformly steel-blue above. Female like female of *P. subis* but brighter, more uniformly gray, the belly whiter, without black shaft-streaks; the nape without sign of a collar in either sex. W. 5.2.

Range.—Breeds from Lower Rio Grande in Texas south to southern Brazil.

Page 253. After No. 496 (which has become *Tangavius æneus involucratus*) add: 496a. **Bronzed Cowbird** (*T. æ. æneus*). Similar to *T. æ. involucratus* but plumage of the male *smoother* and more glossy; the female much grayer, more like female of *M. ater*.

Range.—"San Antonio, Texas, south through eastern Mexico, Yucatan and central America to Panama" (A. O. U.)

The Range of No. 496 is hence restricted to the region from northwestern Mexico to southern Arizona.

Page 255. After No. 488a. add: 488b. **Western Crow** (*C. b. hesperis*). Similar to No. 488 "but decidedly smaller, with bill relatively smaller and more slender." ♂ W. 11.88; T. 6.72; B. 1.87; depth of B. at nostril .62 (Ridgway).

Range.—"Western North America, from east central British Columbia and Montana south to southern California, Arizona, and western Texas" (A. O. U.).

APPENDIX II.

FAUNAL BIBLIOGRAPHY

When one is engaged in a study of the birds of a certain region or locality it is of the first importance to learn what has been published about them by previous workers. Such information may appear in general works on the bird-life of a large area, but more frequently it is found in 'local lists' of the birds of a limited district. These lists constitute one of the most characteristic and numerous types of ornithological publication. They are of value to the student of distribution and migration, in the broader phases of these subjects, and they are of especial interest and assistance to students living in the region to which they relate.

The appended titles of works of this nature have been selected from a card catalogue of faunal publications which the author began to prepare some twenty years ago, in part with regard to their historic importance, but mainly on the basis of their present working value.

Unfortunately many of these papers are now out of print or are hidden in scientific publications of but limited circulation and are therefore correspondingly inaccessible. When, however, other means to secure them fail, the Librarian of the American Museum of Natural History, in New York City, may be consulted with a view to securing, at cost, a type written copy of any list desired.

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Appendix II

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* See Grinnell, J. A Bibliography of California Ornithology. Pacific Coast Avifauna, No. 5.

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CONNECTICUT

1843. LINSLEY, J. H. A Catalogue of the Birds of Connecticut. Am. Journ. Sci. and Arts, XLIV, pp. 249-274, 302 species. See also Ibid., XLVI, 1844, pp. 50, 51.—1877. MERRIAM, C. H. A Review of the Birds of Connecticut, with Remarks on their Habits. Trans. of the Conn. Acad., IV, pp. 1-165; 292 species.—1887. PLATT, F. A List of the Birds of Meriden, Conn. Trans. Meriden Scientific Assoc., II, 1885-86, pp. 30-53; III, p. 41; 116 species.—1892. AVERILL, C. K., JR., List of Birds Found in the Vicinity of Bridgeport, Connecticut. Bridgeport Scientific Society, 8vo, pp. 1-19, 246 species.—1906. CHAP-

MAN, F. M. (See New York).—1908. COMMITTEE. A List of the Birds of the New Haven Region. Bull. No. 1, New Haven Bird Club, pp. 1-32; 217 species.

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1875. GRINNELL, G. B. Report of a Reconnaissance of the Black Hills of Dakota, made in the summer of 1874. By William Ludlow. Chapter II. Birds, pp. 85-102; 110 species.—1875. HOFFMAN, W. J. List of Birds Observed at Grand River Agency, Dakota Ter., from October 7th, 1872, to June 7th, 1873. Proc. Bost. Soc. Nat. Hist., XVIII, pp. 169-175; 79 species.—1877. McCHESNEY, C. E., M. D. Birds of the Coteau des Prairies of Eastern Dakota. Forest and Stream, VIII, pp. 176, 177, 192, 224, 225, 241, 242, 261; 102 species.—1901-2. BENT, A. C. Nesting habits of the Anatidæ in North Dakota. Auk, XVIII, pp. 328-336; XIX, pp. 11-12; 165-174; 16 species.—1908. REAGAN, A. B. The Birds of the Rosebud Indian Reservation, South Dakota. The Auk, XXV, pp. 462-467; 108 species.—1909. VISHER, S. S. A List of the Birds of western South Dakota. The Auk, XXVI, pp. 144-153; 194 species.—1911. VISHER, S. S. Annotated List of the Birds of Harding County, Northwestern South Dakota. The Auk, XXVIII, pp. 5-16; 154 species.

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1883. BAILEY, H. B. Memoranda of a Collection of Eggs from Georgia. Bull. N. O. C., VIII, pp. 37-43; 104 species.—1903. SMITH, R. S. Birds of Kirkwood, De Kalb Co., Ga. Wilson Bull., XV, pp. 49-59; 125 species.—1909. HOWELL, A. H. Notes on the Summer Birds of Northern Georgia. Auk, XXVI, pp. 129-137; 76 species.

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1871. ALLEN, J. A. On the Mammals and Winter Birds of East Florida. Bull. Mus. Comp. Zool., II, pp. 161-450, pll. ix-xiii; 181 species.—1888. CHAPMAN, F. M. A List of Birds Observed at Gainesville, Florida. Auk, V, pp. 267-277; 149 species.—1888-90. SCOTT, W. E. D. A Summary of Observations on the Birds of the Gulf Coast of Florida. Auk, V, pp. 373-379; VI, pp. 13-18, 152-160, 245-252, 318-326; VII, pp. 14-22, 114-120; 262 species.—1890. SCOTT, W. E. D. On Birds Observed at the Dry Tortugas, Florida, during parts of March and April, 1890. Auk, VII, pp. 301-314; 80 species.—1891. BREWSTER, W., and CHAPMAN, F. M. Notes on the Birds of the Lower Suwanee River. Auk, VIII,

pp. 125-138; 116 species. (See also Brewster, Ibid., pp. 149-157.)—1892. SCOTT, W. E. D. Notes on the Birds of the Caloosahatchie Region of Florida. Auk, IX, pp. 209-218, 259 species.—1895. WAYNE, A. T. Notes on the Birds of the Wacissa and Aucilla River Regions of Florida. Auk, XII, 1895, pp. 362-367; 161 species.—1896. CORY, C. B. Hunting and Fishing in Florida with a Key to the Water Birds of the State.—1904. WILLIAMS, R. W., JR. A Preliminary List of the Birds of Leon County, Florida. Auk, XXI, 1904, pp. 449-462; 156 species. (See also Ibid., XXIII, pp. 153-161; XXIV, pp. 158, 159.)—1906. FOWLER, H. W. Birds Observed in June in the Florida Keys. Auk, XXIII, pp. 396-400; 33 species.

IDAHO

1891. MERRIAM, C. H. Results of a Biological Reconnaissance of Idaho, south of latitude 45° and east of the thirty-eighth Meridian made during the summer of 1890. N. A. Fauna, No. 5. Annotated List of Birds Observed in Idaho during the Summer and Fall of 1890, with Notes on Species previously Recorded from the State, pp. 90-108; 157 species.—1897-8. MERRILL, J. C. Notes on the Birds of Fort Sherman, Idaho. Auk, XIV, pp. 347-357, XV, pp. 14-22; 159 species.

ILLINOIS

1855. KENNICOTT, R. Catalogue of Animals Observed in Cook County, Illinois. Trans. Ill., State Agric. Soc. for 1853-54, I, Birds, pp. 580-589; 187 species.—1868. ALLEN, J. A. (See Iowa).—1874. RIDGWAY, R. Catalogue of the Birds Ascertained to Occur in Illinois. Ann. Lyc. Nat. Hist. N. Y., X, pp. 364-394; 311 species.—1876. NELSON, E. W. Birds of Northeastern Illinois. Bull. Essex Inst., VIII, pp. 90-155; 316 species.—1877. NELSON, E. W. Notes upon Birds Observed in Southern Illinois, between July 17 and September 4, 1875. Bull. Essex. Inst., IX, pp. 32-65; 133 species.—1881. RIDGWAY, R. A Revised Catalogue of the Birds Ascertained to Occur in Illinois. Ills. State Lab. Nat. Hist., Bull. No. 4, pp. 161-208; 352 species.—1884. COOKE, W. W. Bird Migration in the Mississippi Valley, Southern Illinois. Forest and Stream, XXIII, pp. 444, 445, 463, 464; 144 species based on Ridgway's list of 1881, and observations of Cyrus W. Butler in the vicinity of Anna, Ills., during December, 1882, and January 1883.—1887. RIDGWAY, R. List of the Birds Found Breeding Within the Corporate Limits of Mt. Carmel, Illinois. Bull. No. 2, Ridgway Orn. Club, pp. 26-35; 85 species.—1890-1895. RIDGWAY, R. The Ornithology of Illinois. Roy. 8vo, Vol. I, 1890, 520 pp., 32 plls. Land-birds to Gallinæ; Vol. II, 1895, 282 pp., 33 plls. Gallinæ and Water-birds; 363 species.—1891. LOUCKS, W. E. List of Birds Found Breeding in the Vicinity of Peoria, Illinois. The Oölogist, VIII, pp. 224-226; 80 species.—1904. WALTER, H. E. and A. W. Wild Birds in City Parks. Rev. Ed., Chicago. 16mo, 66 pp.; 145 species.—1907. WOODRUFF, F. M. The Birds of the Chicago Area. Chicago Acad. Sci. Bull. VI. Nat. Hist. Surv., 221 pp., 12 plls.; 318 species.—1909. CORY, C. B. Birds of Illinois and Wisconsin. Field Museum, Zoöl. Ser. IX, 8vo. 764 pp. many ills.; 398 species.—1910. HESS, I. E. One Hundred Breeding Birds of an Illinois Ten-Mile Radius. Auk, XXVII, pp. 19-32.

INDIANA

1869. HAYMOND, R. Birds of Franklin County, Indiana. Cox's Geol. Surv. Indiana, Rep. for 1869, pp. 209-235; 163 species.—1886. BUTLER, A. W. A List of the Birds Observed in Franklin Co., Ind. Bull. Brookville Soc. Nat. Hist., No. 2, pp. 12-39. 253 species.—1888-89. EVERMANN, B. W. Birds of Carroll County, Indiana. Auk, V. pp. 344-351; VI, pp. 22-30; 203 species.—1891.

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IOWA

1868. ALLEN, J. A. Notes on Birds Observed in Western Iowa, in the Months of July, August and September; also on Birds Observed in Northern Illinois, in May and June, and at Richmond, Wayne Co., Indiana, between June third and tenth. Mem. Bost. Soc. Nat. Hist., I. pt. IV, pp. 488-526. Ogle County, Ills., 84 species; Cook County, Ills., 94 species; Richmond, Ind., 72 species; Western Iowa, 108 species.—1873. TRIPPE, F. M. Notes on the Birds of Southern Iowa. Proc. Bost. Soc. Nat. Hist., XV, pp. 229-242; 162 species.—1888. KEYES, CHARLES R. and WILLIAMS, H. S. A Preliminary Annotated Catalogue of the Birds of Iowa. Proc. Davenport Acad. Nat. Sci., V, 8vo, 49 pp.; 260 species.—1890. COONE, JOHN V. Summer Residents of Buena Vista County, Iowa The Oölogist, VII, pp. 45-47; 52 species.—1895. JONES, LYNDS. Bird Migration at Grinnell, Iowa. Auk, XII, 1895, pp. 117-134, 231-237.—1897. ANDERSON, R. M. An Annotated List of the Birds of Winnebago and Hancock Counties, Iowa. Pub. by Author, Forest City, Iowa. 16mo, 19 pp.; 218 species.—1906. WILSON, B. H. Birds of Scott Co., Iowa. Wilson Bull., XVIII, pp. 1-11; 166 species.—1907. ANDERSON, R. M. The Birds of Iowa. Proc. Davenport Acad. Sci., XI, pp. 125-417; 355 species.

KANSAS

1875. SNOW, F. H. A Catalogue of the Birds of Kansas. Contributed to the Kansas Academy of Science. 8vo, 14 pp. Third Edition. 295 species.—1886. GOSS, N. S. A Revised Catalogue of the Birds of Kansas, with Descriptive Notes of the Nests and Eggs of the Birds Known to Breed in the State. Topeka. 8vo, vi+76 pp.; 335 species. (See also review in Auk, III, 1886, p 399.)—1891. GOSS, N. S. History of the Birds of Kansas. Illustrating 529 Birds. Topeka, Kansas. Geo. W. Crane & Co., Royal 8vo, 692 pp., 35 photogravure plates; 343 species.—1899. LANTZ, D. E. A Review of Kansas Ornithology. Trans. Kans. Acad. Sci., 1896-7, pp. 224-276; 351 species.—1903. SNOW, F. H. A Catalogue of the Birds of Kansas. Fifth Edition. Trans. Kans. Acad. Sciences, XVIII, 23 pp.; 342 species.—1909. WETMORE, A. Fall Notes from Eastern Kansas. The Condor, XI, pp. 154-164; 74 species.—1912. ISELEY, D. A List of the Birds of Sedgwick County, Kansas. The Auk,XXIX, pp. 25-43; 208 species.

KENTUCKY

1882. BECKHAM, C. W. A List of the Birds of Bardstown, Nelson County, Kentucky. Journ. Cinc. Soc. Nat. Hist., VI, pp. 136-147; 167 species.—1885. BECKHAM, C. W. List of the Birds of Nelson County. Kentucky Geol. Surv., John R. Proctor, Director. Author's Edition, 4to, pp. 1-58; 171 species.—1887. PINDAR, L. O. List of the Birds of Fulton County, Kentucky. Orn. and Ool. XII, pp. 54, 55, 84, 85; 122 species.—1889. PINDAR, L. O. List of the Birds of Fulton County, Kentucky. Auk, VI, pp. 310-316; 183 species.—1910. HOWELL, A. H. Notes on the Summer Birds of Kentucky and Tennessee Auk, XXVII pp. 295-304. Kentucky, 80 species.

Appendix II

LOUISIANA

1900. BEYER, G. E. The Avifauna of Louisiana. Proc. La. Soc. Nat. 45 pp.; 323 species.—1904. ALLISON, A. The Birds of West Baton Rouge Parish, Louisiana. Auk, XXI, 1904, pp. 472-484; 130 species.—1906. BEYER, G. E., ALLISON, A., KOPMAN, H. H. List of the Birds of Louisiana. Auk, XXIII, 1906, pp. 1-15, 275-281, XXIV, 314-321; XXV, 173-180; 339-448. 128 species to Pici.—1908. HOWELL, A. H. Notes on the Winter Birds of Northern Louisiana. Proc. Biol. Soc. Washington, XXI, 119-124 pp.; 70 species.

MAINE

1862. BOARDMAN, G. A. Catalogue of the Birds Found in the Vicinity of Calais, Maine, and about the Islands of the Mouth of the Bay of Fundy. Edited by A. E. Verrill. Proc. Bost. Soc. Nat. Hist., IX, pp. 122-132; 236+4 species. (For 12 additions see Verrill, Ibid., pp. 233, 234.)—1862. VERRILL, A. E. Catalogue of the Birds Found at Norway, Oxford Co., Maine. Proc. Essex. Inst., III, pp. 136-160; 159 species.—1872. MAYNARD, C. J. A Catalogue of the Birds of Coos Co., N. H., and Oxford Co., Maine. With notes by Wm. Brewster, Proc. Bost. Soc. Nat. Hist., XIV, 1871, pp. 356-385; 164 species.—1882. BROWN, N. C. A Catalogue of the Birds Known to Occur in Portland, Maine. Proc Portl. Soc. Nat. Hist., Dec. 14, 1882, pp, 1-37; 250 species. (See also Proc. Portl. Soc. Nat. Hist., 1889, pp. 37-40).—1900. HOWE, R. H., JR. Summer Birds near Isleboro and the Fox Islands. Journ. Maine Orn. Soc. II, pp. 28-32, III, pp. 14, 15; IV, p. 18; 100 species.—1908. KNIGHT, O. W. The Birds of Maine, Pub. by Author, Bangor 8vo, 693 pp., 30 ills.; 327 species.

MARYLAND

1895. KIRKWOOD, F. C. A List of the Birds of Maryland. Trans. Md. Acad. Sci., 1895, pp. 241-382; 290 species.—1900. MERRIAM, C. H., and PREBLE, E. A. The Summer Birds of Western Maryland. Maryland Geol. Surv., pp. 291-307; 100 species.—1904. EIFRIG, G. Birds of Allegany and Garrett Counties, Western Maryland. Auk, XXI, 1904, pp. 234-250; 180 species.

MASSACHUSETTS

1870. MAYNARD, C. J. Catalogue of the Birds of Eastern Massachusetts. The Naturalist's Guide, Part II, pp. 81-170; 299 species.—1886. ALLEN, J. A. A Revised List of the Birds of Massachusetts. Bull. Am. Mus. Nat. Hist., I, pp. 221-271; 349 species.—1887. CLARK, H. L. The Birds of Amherst and Vicinity, Including Nearly the Whole of Hampshire County, Mass. 8vo. 55 pp.; 177 species.—1888. BREWSTER, W. Notes on the Birds of Winchendon, Worcester Co. Auk, V, pp. 386-393; 82 species.—1889. FAXON, W. On the Summer Birds of Berkshire County, Mass. Auk, VI, pp. 39-46, 99-107. Southern Berkshire, 76 species; Graylock Mountain, 80 species.—1889. INGALLS, C. E. Birds of Templeton and the Adjoining Towns. Gardner News, XX, June; 155 species. Not seen; title from Howe and Allen.—1891. COLBURN, W. W., and MORRIS, R. O. The Birds of the Connecticut Valley in Massachusetts. 16mo, 24 pp. Springfield Published by the Authors. 212 species.—1891. WAKEFIELD, J. R. A List of the Birds of Dedham. Dedham Hist. Reg., II, pp. 70-74; 181 species. Not seen; title from Howe and Allen.—1897. MORSE, A. P. Birds of Wellesley. Published by Author. Wellesley. 16mo, 56 pp.; 224 species.—1900. FAXON, W., and HOFFMANN, R. The Birds of Berkshire Co. Coll. Berkshire Hist. and Sci. Soc., III, pp. 109-166; 200 species.—1901. HOWE, R. H. JR., and ALLEN, G. M. The Birds of Massachusetts. Published by the Authors. 8vo, 154 pp.; 362 species.—1901. MORRIS, R. O.—The Birds of Springfield, Mass., and Vicinity H. R. Johnson, Springfield. 8vo, 54 pp.; 255 species.—1905. TOWN-

SEND, C. W. The Birds of Essex County, Massachusetts. Memoirs Nutt. Ornithological Club 4to, 352 pp. Frontispiece and Map; 319 species.—1906. BREWSTER, W. The Birds of the Cambridge Region of Massachusetts. Memoirs Nutt. Ornithological Club, IV, 426 pp., plls. 7; 249 species.—1909. WRIGHT, H. W. Birds of the Boston Public Garden. (Houghton, Mifflin), 16mo, 238 pp.; 166 species.—1912. MORSE, A. P. A Pocket List of the Birds of Eastern Massachusetts with especial reference to Essex County. Pp. 92. Peabody Academy Science, Salem.

MICHIGAN

1857. KNEELAND, S. On the Birds of Keeweenan Point, Lake Superior, Proc. Bost. Soc. Nat. Hist., VI, 231-241 pp.; 147 species.—1875. BOIES, A. H. Catalogue of the Birds Ascertained to Occur in Southern Michigan. 8vo, 12 pp.; 211 species.—1876. COVERT, A. B. Birds of Lower Michigan. Forest and Stream, VI, pp. 99, 132, 163, 214, 318, 354, 402; VII, pp. 147, 164, 276. (See also VI, p. 197.) 243 species.—1879. GIBBS, M. Annotated List of the Birds of Michigan. Bull. U. S. Geol. and Geograph. Survey of the Territories, V, 3 pp. 481-497; 310 species.—1880. STEERE, J. B. A List of the Mammals and Birds of Ann Arbor and Vicinity. 8vo, 8pp.; 141 species of birds.—1884. ATKINS, H. A. Summer Birds of Locke, Michigan. Orn and Oöl., IX, pp. 43-45; 80 species.—1884. ATKINS, H. A. Winter Birds of Locke, Michigan. Orn and Oöl., IX, pp. 71, 72; 31 species.—1885. ATKINS, H. A. Summer Birds of Locke, Michigan. Orn and Oöl., X, p. 3; 82 species.—1885. GIBBS, M. A Catalogue of the Birds of Kalamazoo County, Michigan. Orn and Oöl., X, pp. 6, 7, 38, 39, 54, 55, 68-70, 86, 87, 118, 119, 133-135, 149-151, 166, 167, 189, 190; 230 species.—1885-7. GIBBS, M. The Birds of Michigan. Forest and Stream, XXIII, pp. 483, 484; XXIV, pp. 5, 6, 26, 27, 44, 45, 65, 84, 104, 105, 124, 125, 144, 145, 184, 224, 267, 268, 288, 289, 307, 347, 387, 388, 427; XXV, pp. 4, 5, 304, 305, 365, 366; XXVI, pp. 305, 306; XXVII, pp. 123, 124, 223, 224; 68 species.—1890. WHITE, T. G. Birds of Mackinac Island, Michigan. The Oölogist, VII, pp. 48, 49; 101 species.—1893. COOK, A. J. Birds of Michigan. Bull. 94, State Agricultural College. 8vo, 148 pp.; 332 species.—1893. WHITE, S. E. Birds Observed on Mackinac Island, Michigan, During the Summers of 1889, 1890, and 1891. The Auk, X, pp. 221-230; 143 species.—1897. BOIES, A. H. Birds of Neebish Island, St. Mary's River, Michigan. Bull. Mich. Orn. Club, I, pp. 17-20, 27-29; 149 species.—1903. SWALES, B. H. Notes on the Winter Birds of Wayne Co., Michigan. Wilson Bull., XIV, pp. 20-24; XV, 1904, p. 82; 71 species.—1903. SWALES, B. H. A List of the Land Birds of Southeastern Michigan. Bull. Mich. Orn. Club, IV, pp. 14-17, 35-40; V, pp. 37-43; 165 species. (See also Wilson Bull. XVII, 1905, pp. 108-114); Auk, XXV, pp. 230-232).—1905. WOOD, N. A., and FROTHINGHAM, E. H. Notes on the Birds of Au Sable Valley, Michigan. Auk, XXII, 1905, pp. 39-154; 103 species.—1906. WOOD, N. A., PEET, M. M., McCREARY, O. Annotated List of the Birds of Porcupine Mountains [89 species] and Isle Royale [81 species], Mich. Rep. Geol. Surv. Mich., 1905, pp. 113-127. See also McCreary, Ibid., pp. 56-57.—1909. BLACKWELDER, E. Summer Birds of Iron County. Auk, XXVI, pp. 363-370; 80 species.—1910. WOOD, J. CLAIRE. Some Winter Birds of the Season 1908-9 in Wayne County. Auk, XXVII, pp. 36-41.—1910. WOOD, N. A., and TINKER, A. D. Notes on Some of the Rarer Birds of Washtenaw County. Auk, XXVII, pp. 129-141; 34 species.—1910. CHANEY, R. W. Summer and Fall Birds of the Hamlin Lake Region, Mason County. Auk, XXVII, pp. 271-279; 119 species.—1911. WOOD, N. A. Expedition to Charity Islands, Lake Huron. Wilson Bull., XXIII, pp. 78-112; 162 species.—1912. BARROWS, W. B. Michigan Bird Life. Special Bull. of Mich. Agric. College. 8vo, pp. xiv+822; many ills., bibliography; important.

Appendix II

MINNESOTA

1871. TRIPPE, T. M. Notes on the Birds of Minnesota. Proc. Essex Inst., VI, pp. 113-119; 138 species.—1874. HATCH, P. L. Report on the Birds of Minnesota. Bull. Minn. Acad. Nat. Sci., pp. 43-68; 230 species.—1876. ROBERTS, T. S. A List of Some Birds Observed in the Vicinity of Minneapolis, Minn., not Enumerated in Dr. Hatch's List. The Scientific Monthly (Toledo, Ohio), I, 5, p. 231.—1880. ROBERTS, T. S., and BENNER, F. A Contribution to the Ornithology of Minnesota. Bull. N. O. C., V, pp. 11-20; 86 species.—1881. HATCH, P. L. A List of the Birds of Minnesota. Ninth Ann. Rep. Geol. and Nat. Hist. Surv. Minn., for 1880, 1881, pp. 361-372; 281 species.—1881. ROBERTS, T. S. The Winter Birds of Minnesota. 9th Ann. Rep. Geol. and N. H. Surv. Minn., for 1880-1881, pp 373-383; 52 species.—1883. BRACKETT, F. H. Ornithological Notes from Minnesota. Quart. Journ. Bost Zoöl. Soc. II, pp. 47-49; III, pp. 7-16; 134 species. -1830. CANTWELL, G. C. A List of the Birds of Minnesota. Orn. and Oöl., XV, p. 129-139. (See also p. 156 and XVI, p. 157); 295 species.—1892. HATCH, P. L. Notes on the Birds of Minnesota. Geol. and Nat. Hist. Survey of Minn. 8vo, 487 pp.; 302 species.—1904. CURRIER, E. S. Summer Birds of the Leech Lake Region, Minn. Auk, XXI, pp. 29-44; 117 species.—1907. ROBERTS, T. S. List of Birds of Becker Co., Minn., Pioneer Hist. of Becker Co. (Pioneer Press, St. Paul). pp. 159-190; 262 species. —1911. HONYWILL, A. W. JR.—Notes on some Summer and Fall Birds of the Crooked Lake Region. Cass and Crow, Wing Counties, Minn. The Auk, XXVIII, pp. 229-237; 86 species.

MISSISSIPPI

1905. STOCKARD, C. R. Nesting Habits of Birds in Mississippi. Auk, XXII, 1905, pp. 146-158, 273-285; 83 species.—1906. ALLISON, A. Notes on the Winter Birds of Hancock Co., Miss., Auk, XXIII, 1906, pp. 44-47; 51 species. Also Ibid., p. 232.—1907. ALLISON, A. Notes on the Spring Birds of Tishomingo County, Miss. Auk, XXIV, pp. 12-25.

MISSOURI

1872. SCOTT, W. E. D. Notes on Birds Observed During the Spring Migration in Western Missouri. Bull. N. O. C., IV, pp. 139-147; 148 species.—1884. HURTER, J. List of Birds Collected in the Neighborhood of St. Louis, Mo. Orn and Oöl., IX, pp. 85-87, 95-97. (see also p. 128); 265 species.—1896. WIDMANN, O. The Peninsula of Missouri as a Winter Home for Birds. Auk, XIII, 1896, pp. 216-222.—1907. WIDMANN, O. A Preliminary Catalogue of the Birds of Missouri. Trans. Acad. Sci. St. Louis, XVIII, pp. 1-288; 383 species.—1908. WOODRUFF, E. S. Birds of Shannon and Carter Counties, Missouri, Auk, XXV, pp. 191-213; 172 species.

MONTANA

1876. GRINNELL, G. B. Report of a Reconnaissance from Carroll Montana Territory on the Upper Missouri, to the Yellowstone National Park, and Return, made in the summer of 1875 by William Ludlow. . . .Birds, pp. 72-92; 139 species.—1884. RICHMOND, C. W., and KNOWLTON, F. H. Auk, XI, pp. 298-308; 111 species.—1885. THORNE, P. M. List of Birds observed in the Vicinity of Fort Keogh, Montana, from July 1888, to September 1892. The Auk, XII, pp. 211-219; 139 species.—1901. CARY, M. Birds of the Black Hills. The Auk, XVIII, pp. 231-238; 91 species.—1901. SILLOWAY, P. M. Summer Birds of Flathead Lake. Bull, No. 3 Univ. Mont. 8vo. 83 pp., 16 plls.; 123 species (see also, Ibid. No. 6, pp. 289-308) —1903. SILLOWAY, P. M. The Birds of Fergus County, Montana. Bull. No. 1, Fergus Co. Free High School, Lewiston, Mont.

77 pp., 17 ppls.; 179 species.—1907-8. CAMERON, E. S. The Birds of Custer and Dawson Counties, Montana. The Auk, XXIV, pp. 241-270; 389-406; XXV, pp. 34-56; 192 species.—1911. SAUNDERS, A. A.. A Preliminary List of the Birds of Gallatin County, Montana. The Auk, XXVIII, pp. 26-49; 198 species.—1912. SAUNDERS, A. A. Some Birds of Southwestern Montana. The Condor, XIV, pp. 22-32; 152 species.

NEBRASKA

1878. AUGHEY, S. Notes on the Nature of the Food of the Birds of Nebraska. First Ann. Rep. U. S. Ent. Com. for the year 1877. Appendix II, pp. 13-62; 252 species.—1883. HALL, A. Spring Birds of Nebraska. Forest and Stream, XX, pp. 265, 266, 284; 114 species.—1888. TAYLOR, W. EDGAR. A Catalogue of Nebraska Birds . . . Ann. Rep. Nebr. State Board of Agric., for the year 1887, pp. 111-118; 314 species.—1888-89. TAYLOR, E. W., and VAN VLEET, A. H. Notes on Nebraska Birds. Orn and Oöl., XIII, pp. 49-51, 169-172; XIV, pp. 163-165; 137 species.—1896. BRUNER, L. Notes on Nebraska Birds. Rep. Neb. State Hort. Soc., 1896, pp. 48-178; 415 species.—1901. BRUNER, L. Birds that Nest in Nebraska. Proc. Nebr. Orn. Union, 1901, pp. 48-61; 212 species.—1904. BRUNER, L., WALCOTT, R. H., and SWENK, M. H. A Preliminary Review of the Birds of Nebraska, 1-116+5 p.; 406 species. Klopp and Bartlett, Omaha, Nebr.—1902. WALCOTT, R. H. An Analysis of Nebraska's Bird Fauna. Proc. Neb. Orn. Union, IV, pp. 25-55.

NEVADA

1877. HENSHAW, H. W. Annual Report upon the Survey West of the One-Hundredth Meridian. Being Appendix N N of the Annual Report of Engineers for 1877. Report on the Ornithology of Portions of Nevada and California, pp. 1303-1322.—1877. RIDGWAY, R. Report of Geological Exploration of the Fortieth Parallel. Clarence King, Geologist, in charge. Vol. IV, Part III, Ornithology, 4to, pp. 303-670. Mainly limited to that portion of the Great Basin included between the thirty-ninth and forty-second parallels and extending from the Sierra Nevada to the Wasatch Mountains; 262 species.—1880. HENSHAW, H. W. Annual Report upon the Geog. Surv. of the Terr. west of the 100th Meridian . . . . App. O. O. of the Ann. Rep. of the Chief of Engineers for 1879. App. L. Ornithological Report from Observations and Collections made in portions of California, Nevada, and Oregon; pp. 282-335; 184 species.—1881. HOFFMAN, W. J. Annotated List of the Birds of Nevada. Bull. U. S. Geol and Geograph. Survey of the Territories, VI, 2, pp. 203-256; 250 species.—1903. HANFORD, F. S. The Summer Birds of Washoe Lake, Nevada. The Condor, V, pp. 49-52; 48 species.—1912. TAYLOR, W. P. Field Notes on Amphibians, Reptiles and Birds of Northern Humboldt County, Nevada. Univ. Pub. Zool VII, 10, pp. 319-436; 103 species.

NEW HAMPSHIRE

1877. GOODHUE, C. F. The Birds of Webster and Adjoining Towns. Forest and Stream, VIII, pp. 33, 49, 96, 113, 146; 151 species. 1872. MAYNARD, C. J. See Maine.—1887. CHADBOURNE, A. P. A List of the Summer Birds of the Presidential Range of the White Mountains, N. H. Auk, IV, pp. 100-108; 47 species.—1888. FAXON, W., and ALLEN, J. A. Notes on the Summer Birds of Holderness [65 species], Bethlehem [50 species], and Franconia, N. H. [87 species]. Auk, V, pp. 149-155.—1889. ALLEN, F. H. Summer Birds at Bridgewater, N. H. Auk, VI, pp. 76-79.—1882. KNOWLTON, F. H. A Revised List of the Birds of Brandon, Vt. The Brandon Union, February 10, 1882; 149 species.—1899. DEARBORN, N. Preliminary List of the Birds of Belknap and Merri-

mac Counties, N. H. New Hampshire College, Durham, 8vo, 34 pp.; 175 species. —1900. BATCHELDER, F. W. and FOGG, E. H. Preliminary List of Birds . . . . of Manchester, N. H. Proc. Manchester Inst. Arts and Sci., I, pp. 123-138; 132 species. (See also Proc. for 1901, 1902.)—1900 DEARBORN, N. The Birds of Durham and Vicinity. Cont. Zoöl. Lab. N. H. College Agric. and Mech. Arts, VI, 121 pp., map.—1904. ALLEN, G. M. The Birds of New Hampshire. Proc. Manchester Inst. Arts and Sciences, IV, pp. 23-222; 283 species.—1904. COMEY, A. C. A Partial List of the Summer Birds of Holderness, N. H. Wilson Bull., XVI, 5-9 pp.; 94 species.

NEW JERSEY

1885. BARRELL, H. F. Birds of the Upper Passaic Valley, New Jersey. Orn. and Oöl., X, pp. 21-23, 42, 43; 149 species.—1887. THURBER, E. A List of Birds of Morris County, New Jersey. True Democratic Banner (newspaper), Morristown, N. J., Nov. 10, 17, 24; 205 species.—1894. STONE, W. The Birds of Eastern Pennsylvania and New Jersey. 8vo, 185 pp. Del. Valley Orn. Club, Phila.; 346 species.—1894. STONE, W. Summer Birds of the Pine Barrens of New Jersey. Auk, XI, 1894, pp. 138-140; 90 species.—1897-1910. STONE, W., Editor. Numerous Notes on Birds of Chiefly Southern New Jersey. Proc. Del. Valley Orn. Club, Phila.—1901. BABSON, W. A. The Birds of Princeton, N. J. Bull. Bird Club, Princeton Univ. I, pp. 7-28; 230 species.—1906. CHAPMAN, F. M. (See New York.)—1907. HOLMES, L. K. Birds Found within a Radius of 12 Miles of Summit, N. J. Wilson Bull. XIX, pp. 21-27; 201 species. See also list of Summer Birds, *Ibid.*, XVII, pp. 8-12; and Hann, List of Summer Birds, *Ibid.*, pp. 117-122.—1909. STONE, W. The Birds of New Jersey. Ann. Rep. N. J. State Museum for 1908, pp. 11-347, 409-419; plls. 1-84.—1909. BAILY, W. L. Breeding Birds of Passaic and Sussex Counties. Cassinia, pp. 29-36; 94 species.

NEW MEXICO

1853. WOODHOUSE, S. W. (See Arizona).—1859. HENRY, T. C. Catalogue of the Birds of New Mexico as compiled from Notes and Observations made while in that Territory during a residence of Six Years. Proc. Acad. Nat. Sci. Phila., XI, pp. 104-109; 198 species.—1885-6. HENSHAW, H. W. List of Birds Observed in Summer and Fall on the Upper Pecos River, New Mexico. Auk, II, pp. 326-333; III, pp. 73-80; 80 species.—1892. ANTHONY, A. W. Birds of Southwestern New Mexico. Auk, IX, pp. 357-369; 129 species.—1898. MITCHELL, W. I. The Summer Birds of San Miguel County, New Mexico. The Auk, XV, pp. 306-311; 85 species. (See also, Bailey, *Ibid*, XXI, 1904, pp 443-449). —1904. BAILEY, F. M. Additional Notes on the Birds of the Upper Pecos. The Auk, XXI, pp. 349-363; 93 species.—1906. HUNN, J. T. S. Notes on Birds of Silver City, New Mexico. The Auk, XXIII, pp. 418-425; 112 species.—1908. GILMAN, M. F. Birds on the Navajo Reservation in New Mexico. The Condor, X, pp. 146-152; 108 species.—1912. BERGTOLD, W. H. October Birds of the Headwaters of the Gila River, New Mexico. The Auk, XXIX, pp. 327-336; 76 species.

NEW YORK

1844. GIRAUD, J. P., JR. The Birds of Long Island . . New York, vol. V, 8vo, 397 pp.; 286 species.—1844. DE KAY, JAMES E. Zoölogy of New York. Part II, Birds. Albany. 1 vol., 4to, xii+380 pp., 141 col. plls.—1876. FOWLER, H. G. Birds of Central New York. Forest and Stream, VI, pp. 180, 233, 284, 337, 402; VII, pp. 36, 52, 84, 230. Also Additions *Ibid.*, p. 180; 170 species.—1877. ROOSEVELT, T., JR., and MINOT, H. D. The Summer Birds of the Adirondacks in Franklin County, N. Y. 8vo, 4 pp.; 97 species.—1879. RATHBUN, FRANK R. A Revised List of Birds of Central New York. (Cayuga, Onondaga,

Seneca, Wayne, and Yates Counties, Auburn, N. Y.) 44 pp. See also Orn. and Oöl., VII, 1882, pp. 132, 133; 14 additions.—1879-80. MEARNS, E. A. A List of the Birds of the Hudson Highlands. Bull. Essex. Inst., X, pp. 166-179; XI, pp. 43-52, 154-168, 189-204; XII, pp. 11-25, 109-128; XIII, pp. 75-93. (See also Auk, VII, 1890, pp. 55, 56); 214 species.—1880. GREGG, W. H. Revised Catalogue of the Birds of Chemung County, New York, Elmira, N. Y., O. H. Wheeler; 217 species.—1881-84. MERRIAM, C. H. Preliminary List of Birds Ascertained to Occur in the Adirondack Region, Northeastern New York. Bull. N. O. C., VI, pp. 225-235; and Addenda VII, 1882, pp. 128, 256, 257. Auk, I, 1884, pp. 58, 59; 211 species.—1882. BICKNELL, E. P. A Review of the Summer Birds of a part of the Catskill Mountains, with prefatory remarks on the faunal and floral features of the region. Trans. of the Linn. Soc. of New York, I, pp. 115-168; 90 species.—1885...HOLLICK, A. Preliminary List of the Birds Known to Breed on Staten Island. Proc. Nat. Sci. Asso. Staten Island. Extra No. 4, December. 67 species.—1886...BARNUM, M. K. A Preliminary List of the Birds of Onondaga County, N. Y. Bull. of the Biol. Lab. of Syracuse. 8vo, pp. 1-34; 204 species.—1886. RALPH, W. L., and BAGG, E. An Annotated List of the Birds of Oneida County, N. Y., and Its Immediate Vicinity. Trans. Oneida Hist. Soc., III, pp. 101-147; 224 species. (See also *Ibid.*, VII, 1890, pp. 2, 29-232.) Orn. and Col. XIII, 1888, pp. 58, 59. Auk, XI, 1894, pp. 162-164.—1886. WOODRUFF, L. B., and PAINE, A. G., JR. Birds of Central Park, New York City. A Preliminary List. Forest and Stream, XXVI, pp. 386, 387, 487; 121 species.—1889. BERGTOLD, W. H. A List of the Birds of Buffalo and Vicinity. Bull. Buffalo Nat. Field Club, 1, 7, pp. 1-21; 237 species.—1889. DAVISON, J. L. Birds of Niagara County, New York. Forest and Stream, XXXIII, pp. 164, 183, 303; 190 species.—1892. CLUTE, W. N. The Avifauna of Broome Co., N. Y. Wilson Quart., pp. 59-64; 106 species.—1896. SHORT, E. H. Birds of Western New York. F. H. Lattin, Albion, N. Y. 20 pp.; 229 species.—1901. EATON, E. H. Birds of Western New York. Proc. Roch. Acad. IV, 64 pp.; 299 species.—1901. EMBODY, G. O. Birds of Madison County, N. Y. Bull. Dep't. Geol. and Nat. Hist., Colgate University, Hamilton, N. Y. 8vo, 36 pp.; 191 species. (See also Maxon, Auk, XX, p. 263.)—1904. CHAPMAN, F. M. An Annonated List of the Birds Known to Breed within 50 Miles of New York City. Guide Leaflet, No. 14, Am. Mus. Nat. Hist., 31 pp., 13 ills.—1906. CHAPMAN, F. M. The Birds of the Vicinity of New York City. Am. Mus. Nat. Hist., Guide Leaflet, No. 22. Rev. Ed., 96 pp. Numerous ills.; 353 species.—1907. BRAISLIN, W. C. A List of the Birds of Long Island, N. Y. Abst. Proc. Linnæan Society, N. Y., 1907, pp. 31-123; 264 species. (See also Auk, 1909, pp. 314-316.)—1910. REED, H. D., and WRIGHT, A. H. Veterbrates of the Cayuga Lake Basin. Proc. Am. Philos. Soc., XLVIII, pp. 370-459; 257 species.—1910. WRIGHT, A. H. and ALLEN, A. A. The Increase of Austral Birds at Ithaca. Auk, XXVII, pp. 63-66.—1910. EATON, E. H. Birds of New York. I, Water and Game Birds. 4to, pp. 1-501, col. pls [by Fuertes] 42. Important.—1912. BAGG, E. Annotated List of the Birds of Oneida County, N. Y., and of the West Canada Creek Valley. Trans. Oneida Hist. Soc. XII, pp. 16-85; 257 species.

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The North Carolina Mountains in Winter. Auk, III, pp. 307-314; 40 species. —1887. ATKINSON, G. F. Preliminary Catalogue of the Birds of North Carolina, Journ. Elisha Mitchell Society, 1887, Part 2, pp. 44-87; 255 species. A compilation with some errors.—1887. CAIRNS, J. S. A List of Birds of Buncombe Co., North Carolina. Orn. and Oöl., XII, pp. 3-6; 169 species.—1887. SENNETT, G. B. Observations in Western North Carolina Mountains in 1886. Auk, IV, pp. 240-245; 29 species.—1888. BRIMLEY, C. S. A List of Birds Known to Breed at Raleigh, N. C. Orn. and Oöl., XIII, pp. 42, 43; 54 species. (See also *Ibid.*, p. 187. Auk, XIV, p. 165.)—1889. CAIRNS, J. S. The Summer Birds of Buncombe County, North Carolina. Orn. and Oöl., XIV, pp. 17-22; 123 species.—1893. BRIMLEY, C. S. Some Additions to the Avifauna of North Carolina, with Notes on Some Other Species. Auk, X, 1893, pp. 241-244; 48 species.—1897. SMITHWICK, J. W. P. Ornithology of North Carolina. Bull. 144, N. C. Agric. Exp. Sta. 193-228; 303 species.—1899. PEARSON, T. G. Preliminary List of Birds of Chapel Hill, N. C. Journ. Elisha Mitchell Sci. Soc., XVI, pp. 33-51; 132 species.—1901. BISHOP, L. B. The Winter Birds of Pea Island, N. C. Auk, XVIII, pp. 260-268; 42 species.—1905. OBERHOLSER, H. C. Notes on the Mammals and Summer Birds of Western North Carolina. Published by Biltmore Forest School. Birds pp. 11-24; 136 species.—1910. PHILIPP, P. B. (see S. C.)

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1877...LANGDON, F. W. A Catalogue of the Birds of the Vicinity of Cincinnati. 8vo, 18 pp. Salem, Mass.; 279 species.—1879. LANGDON, F. W. A Revised List of Cincinnati Birds. Journ. Cin. Soc. Nat. Hist., I, 4, pp. 167-193. (See also *Ibid.*, III, pp. 121-127; V, 1882, p. 186; VI, 1883, pp. 12-31; 256 species.) —1882. WHEATON, J. M. Report on the Birds of Ohio. Report of the Geological Survey of Ohio, IV, I, pp. 188-628; 298 species.—1891. SMITH, R. W. A List of the Birds of Warren County, Ohio. Journ. Cin. Soc. Nat. Hist., XIV, pp 105-135; 189 species.—1896. OBERHOLSER, H. C. A Primary List of the Birds of Wayne Co. Bull. Ohio Agric. Exp. Sta. I, 4, pp. 243-354; 183 species.—1902. HENINGER, W. F. A Preliminary List of the Birds of Middle Southern Ohio. Wilson Bulletin, IX, pp. 77-93; 209 species. (See also *Ibid.*, pp. 130-132; XII, 1905, pp. 89-93).—1902. JONES, L. Bird Studies in Lorain Co., Ohio. Wilson Bull., IX, pp. 37-58; also pp. 94-100.—1903. DAWSON, W. L. The Birds of Ohio, 4 to xlv+671 pp. Many illus. Columbus, Wheaton Pub. Co.—1903. FIELD, A. I. Birds of Lecking Co., Ohio. Bull. Sci. Lab. Denison Univ., XV; 203 species. —1903. JONES, L. The Birds of Ohio. A revised Catalogue, Ohio State Acad. of Sci., Special Papers No. 6, 141 pp. 1 map; 318 species.—1906. HENINGER, W. F. A Preliminary List of Birds of Seneca Co., Ohio. Wilson Bull., XVIII. pp. 47-60; 205 species.—1909-10. JONES, L. The Birds of Cedar Point and Vicinity. Wilson Bull., XXI, pp. 55-76, 115-131, 187-202; XXII, pp 25-41, 97-115, 172-182. *Note.*—Every issue of the Wilson Bulletin (Oberlin, Ohio) contains matter of special interest to bird students in Ohio and the adjoining states.

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1839. TOWNSEND, J. K. Narrative of a Journey across the Rocky Mountains to the Columbia River . . . . Philadelphia: Henry Perkins, 134 Chestnut Street. Boston: Perkins and Marvin. 8vo, pp. viii, 352. Appendix: Catalogue of Birds found in the Territory of the Oregon. pp. 331-352.—1860. COOPER, J. G. and SUCKLEY, G. Report upon the Birds Collected on the Survey. Pac. R R. Rep. Vol. XII, Book 11, pp. 140-291; 216 species observed in Oregon and Washington.—1877. BENDIRE, C. Notes on some of the Birds found in Southeastern Oregon, particularly in the Vicinity of Camp Harney, from November, 1874 to January 1877. Proc. Bost. Soc. Nat. Hist., XIX, pp. 109-149; 191 species.

--1879. MEARNS, E. A. Partial List of the Birds of Fort Klamath, Oregon, Collected by Lieutenant Willis Wittich, U. S. A., with Annotations and Additions by the Collector. Bull. N. O. C., IV, pp. 161-166, 194-199; 111 species.—1880. HENSHAW, H. W. (See Nevada.)—1880. JOHNSON, O. B. List of the Birds of the Willamette Valley, Oregon. Am. Nat. XIV, pp. 485-491, 635-646; 140 species.—1886. ANTHONY, A. W. Field Notes on the Birds of Washington County, Oregon. Auk, III, pp. 161-172; 120 species.—1888. MERRILL, J. C. Notes on the Birds of Fort Klamath, Oregon. With remarks on certain species by William Brewster. Auk, V, pp. 139-146, 251-262, 357-366; 168 species. —1902. ANTHONY, A. W. List of Birds in the Vicinity of Portland, Oregon. Bailey's 'Handbook of Birds of the Western United States,' pp. xliii-xlviii; 145 species.—1902. LORD, W. R. A First Book upon the Birds of Oregon and Washington, 16mo, 304+iv pp. ills. J. K. Gill Co., Portland.—1904. MILLER, L. H. The Birds of the John Day Region, Oregon. The Condor, VI, pp. 100-106; 71 species.—1905. FINLEY, W. L. Among the Sea Birds off the Oregon Coast. The Condor, VII, pp. 110-127; 161-169.—1909. JEWETT, S. G. Some Birds of Baker County, Oregon. The Auk, XXVI, pp. 5-9; 83 species.—1911. Peck, M. E. Summer Birds of Willow Creek Valley, Malheur County, Oregon. The Condor, XIII, pp. 63-69; 74 species.

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1844. BAIRD, W. M. and S. F. List of Birds Found in the Vicinity of Carlisle, Cumberland County, Pa. Am. Journ. Sci. and Arts, XLVI, pp. 261-273; 201 species.—1845. BAIRD, S. F. Catalogue of Birds Found in the Neighborhood of Carlisle, Cumberland County, Pa. Lit. Rec. and Journ. Linn. Assoc. of Penna. College, I, pp. 249-257; 203 species.—1861. BARNARD, V. A. A Catalogue of the Birds of Chester County, Pa. Times of Arrival in Spring. Ann. Rep. Smiths. Inst., 1860, pp. 434-438; 191 species.—1869. TURNBULL, W. P. The Birds of East Pennsylvania and New Jersey . . . 1 vol. roy. 8vo, and also 4to, xii+62 pp.; 342 species.—1880. WARREN, H. B. The Birds of Chester County, Pa. Forest and Stream, XIII, pp. 1024, 1025; XIV, pp. 6, 25; 218 species. —1886. PARKER, H. G. List of Birds near Philadelphia with the Dates That Sets of Eggs Were Taken. Orn. and Oöl. XI, pp. 70, 71; 76 species.—1887. PENNOCK, C. J. Birds of Chester County, Pa. The Oölogist, IV, pp. 1-10; 234 species.—1889. RESSEL, C. B. Birds of Chester County, Pa. Orn. and Oöl., XIV, 97-101, pp. 112-116,129, 130; 199 species.—1890. WARREN, B. H. Report on the Birds of Pennsylvania. With Special Reference to the Food Habits Second Edition. Harrisburg, 8vo, xiv+434 pp.; 100 col. plls.—1891. STONE, W. The Summer Birds of Harvey's Lake, Luzerne Co., Pennsylvania, with Remarks on the Faunal Position of the Region. Proc. Acad. Nat. Sci. Phila. 1891, pp. 431-438; 54 species.—1892. DWIGHT, J., JR. Summer Birds of the Crest of the Pennsylvania Alleghanies. Auk, IX, pp. 129-141; 84 species.—1893. JACOBS, J. W. Summer Birds of Greene Co., Pa. 8vo, 15 pages; 90 species. Published by Author, Waynesburg, Pa.—1893. TODD, W. E. C. Summer Birds of Indiana [65 species] and Clearfield [55 species] Counties, Pa. Auk, X, 1893, pp. 35-46.—1894. STONE, W. The Birds of Eastern Pennsylvania and New Jersey. 8vo, vii+185 pp. Del. Valley Orn. Club, Phila. 346 species.—1895. ROTZELL, W. E. Birds of Narbeth, Pa., and Vicinity. The Citizen, June 22 and 29, and reprinted im pamphlet, 8 pp.; 108 species.—1896. BAILY, W. L. Summer Birds of Northern Elk Co. Auk, XIII, pp. 289-297; 69 species.— 1896. YOUNG, R. T. Summer Birds of Anthracite Coal Regions of Pennsylvania. Auk, XIII, 1896, pp. 278-285; 59 species.—1897. MONTGOMERY, T. H., JR. A List of the Birds of the Vicinity of West Chester, Chester Co., Pa. Am. Nat., 1897, pp. 622-628, 812-814, 907-911; 145 species.—1897-1910. STONE, W.

Editor. Numerous Notes on and Short Lists of Eastern Pennsylvania Birds. Proc. Del. Valley Orn. Club, Phila.—1899. RHOADES, S. N. Notes on Some of the Rarer Birds of Western Pennsylvania. Auk, XVI, pp. 308-313; 65 species.—1901. BURNS, F. L. A Sectional Bird Census, at Berwyn, Pa. Wilson Bull. No. 36, pp. 84-103; 62 species.—1904. TODD, W. E. C. The Birds of Erie and Presque Isle, Erie Co., Pa. Annals Carnegie Museum, II. pp. 841-596, 4 plates; 237 species.—1904. TODD, W. E. C. The Mammal and Bird Fauna of Beaver County, Pa. Bausman's History of Beaver County, II, 1904, pp. 1195-1202; 178 species.

RHODE ISLAND

1899. HOWE, R. H., JR. and STURTEVANT, E. The Birds of Rhode Island. Published by Authors. 8vo, 111 pp.; 291 species.—1908. Commissioners of Birds. A Check-List of Rhode Island Nesting Birds, pp. 1-26; 104 species.

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1868. COUES, E. Synopsis of the Birds of South Carolina. Proc. Bost. Soc. Nat. Hist., XII, pp. 104-127; 294 species.—1879. LOOMIS, L. M. A Partial List of the Birds of Chester County, S. C. Bull. N. O. C., IV, pp. 209-218; 140 species. (See also additions and notes. Auk, II, 1885, pp. 188-193; VIII, 1891, pp 49-59, 167-173; IX, 1892; pp. 28-39; XI, 1894, pp. 26-39, 94-117.)—1885. HOXIE, W. Notes on the Birds of the Sea Islands. Orn. and Oöl., X, pp. 13-27, 29, 44-46, 62, 63. (Also Corrections and Additions. *Ibid.*, XI, 1886, pp. 33, 34.) 238 species.—1890. LOOMIS, L. M. Observations on Some of the Summer Birds of the Mountain Portions of Pickens County, Auk, VII, pp. 30-39, 124-130; 76 species.—1891. LOOMIS, L. M. June Birds of Cæsar's Head, S. C. Auk, VIII, pp. 323-333; 52 species.—1910. PHILIPP, P. B. List of Birds Observed [in the Carolinas]. Auk, XXVII, pp. 312-322. (See also Wayne, *Ibid.*, p. 464.)—1910. WAYNE, A. T. Birds of South Carolina. Cont. from Charleston Museum, I, 8vo, xxi+pp. 254; 337 species.

TENNESSEE

1886. FOX, W. H. List of Birds Found in Roane County, Tennessee, During April, 1884, and March and April, 1885. Auk, III, pp. 315-320; 114 species.—1895. RHOADS, S. N. Cont. Zoöl. Tenn., Proc. Acad. Nat. Sci., Phila., 1895. pp. 463-501. Also Auk, XIII, 1896, p. 181; 223 species.—1910. HOWELL, A. H. Notes on the Birds of Kentucky and Tennessee. Auk, XXVII, pp. 295-304. Tenn.; 161 species.

TEXAS

1865-6. DRESSER, H. E. Notes on the Birds of Southern Texas. Ibis., 2nd Ser. I, pp. 312-330, 466-495, II, pp. 23-46; 272 species.—1878. MERRILL, J. C. Notes on the Ornithology of Southern Texas. Being a List of Birds Observed in the Vicinity of Fort Brown, Texas, from February, 1876, to June, 1878. Proc. U. S. Nat. Mus. I, pp. 118-173; 252 species.—1878. SENNETT, G. B. Notes on the Ornithology of the Lower Rio Grande, Texas, from Observations made during the Season of 1877. Edited, with Annotations, by Dr. Elliott Coues. Bull. U. S. Geol. and Geograph. Survey, Vol. IV, pp. 1-66; 151 species.—1879. SENNETT, G. B. Further Notes on the Ornithology of the Lower Rio Grande of Texas, from observations made during the spring of 1878. Edited, with Annotations by Dr. Elliott Coues. Bull. U. S. Geol. and Geograph. Survey of the Territories, V, 3, pp. 371-440; 168 species.—1882. BROWN, N. C. A Reconnaissance in Southwestern Texas. Bull, N. O. C., VII, pp. 33-42! 104+6? species observed near Boerne, Kendall County.—1882. NEHRLING, H. List of Birds

Observed at Houston, Harris Co., Texas and vicinity, and in the Counties Montgomery, Galveston, and Ford Bend. Bull Nutt. Orn. Club, VII, pp. 6-13, 166-175, 222-225; 209 species.—1887. LLOYD, W. Birds of Tom Green and Concho Counties, Texas. Auk, IV, pp. 181-193, 289-299; 253 species.—1888. BECKHAM, C. W. Observations on the Birds of southwestern Texas. Proc. U. S. Nat. Mus., X, 1887, pp. 635-696; 283 species.—1891. CHAPMAN, F. M. On the Birds Observed near Corpus Christi, Texas, during parts of March and April, 1891. Bull Am. Mus. Nat. Hist., III, pp. 315-328; 33+66 species.—1892. ATTWATER, H. P. List of Birds Observed in the vicinity of San Antonio, Bexar County, Texas. Auk, IX, pp. 229-238; 337-345; 242 species.—1892. RHOADS, S. N. The Birds of Southeastern Texas and Southern Arizona, Observed during May, June, and July, 1891. Proc. Acad. Nat. Sci. Phila., pp. 98-126. Annotated lists of 100+8 species observed at Corpus Christi, and 124 +2 species observed in Southern Arizona.—1900. CARROLL, J. J. Notes on the Birds of Refugio County, Texas. The Auk, pp. 337-348.—1905. MONTGOMERY, T. H. JR. Summer Resident Birds of Brewster County, Texas. The Auk, XXII, pp. 12-15; 47 species.—1911. LACEY, H. The Birds of Kerrville, Texas, and Vicinity. The Auk, XXVIII, pp. 200-219; 202 species.

UTAH

1858. BAIRD, S. F. Birds found at Fort Bridger, Utah. Pac. R. R. Rep. IX, pp. 926-927; 104 species.—1873. MERRIAM, C. H. Report on the Mammals and Birds of the Expedition to Montana, Idaho, Wyoming, and Utah. Sixth Ann. Rep. U. S. Geol. Surv. Terr. for 1872, 1873. Birds, pp. 670-715. A list of 176 Utah birds.—1873. RIDGWAY, R. Notes on the Bird-fauna of the Salt Lake Valley and the adjacent portions of the Wahsatch Mountains. Bull. Essex Inst., V, pp. 168-173. Remarks on Allen's "List of Birds Collected in the Vicinity of Ogden" and list of Birds found breeding near Salt Lake City.—1874. HENSHAW, H. W. An annotated list of the Birds of Utah. Ann. Lyc. Nat. Hist., N. Y., XI, pp. 1-14; 214 species.—1877. RIDGWAY, R. (See Nevada.)

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WASHINGTON

1892. LAWRENCE, R. H. A Preliminary List of the Birds of the Grays

Harbor Region, Washington. Auk, IX, pp. 39-47; 92 species. (See also pp. 352-357; and Palmer, *Ibid.*, pp. 308-310).—1893. RHOADS, S. N. (See British Columbia.)—1897. DAWSON, W. L. A Preliminary List of the Birds of Okanagan County. Washington. The Auk, XIV, pp. 168-182; 143 species.—1900. KOBBÉ, W. H. The Birds of Cape Disappointment, Washington. The Auk, XVII, pp. 349-358; 63 species.—1902. LORD, W. R. (See Oregon.)—1902. RATHBUN, S. F. A List of the Land Birds of Seattle, Washington and Vicinity The Auk, XIX, pp. 131-141; 112 species.—1903. SNODGRASS, R. E. A List of Land Birds from Central Washington. The Auk, XX, pp. 202-209; 53 species.—1904. SNODGRASS, R. E. A List of Land Birds from Central and Southeastern Washington. The Auk, XXI, pp. 223-233; 58 species.—1906. BOWLES, J. H. A List of Birds of Tacoma, Washington, and Vicinity. The Auk, XXIII, pp. 138-148; 201 species.—1906. JOHNSON, R. H. The Birds of Cheney, Washington. The Condor, VIII, pp. 25-28; 113 species.—1908. EDSON, J. M. Birds of the Bellingham Bay Region. The Auk, XXV, pp. 425-439; 212 species.—1908. DAWSON, W. L. The Bird Colonies of the Olympiades. The Auk, XXV, pp. 153-166.

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1873. SCOTT, W. E. D. Partial List of the Summer Birds of Kanawha County, West Virginia, with Annotations. Proc. Bost. Soc. Hist., XV, pp. 219-227; 86 species.—1875. BREWSTER, W. Some Observations on the Birds of Ritchie County, West Virginia. Annals of the Lyc. Nat. Hist., N. Y., XI, pp. 139-146; 100 species.—1888. DOAN, W. D. Birds of West Virginia. Bull 3. Agric. Exp. Sta., Morgantown; 200 species.—1889. SURBER, T. Birds of Greenbriar County, West Va. The Hawkeye Orn. and Oöl. (E. B. Webster, Cresco. Iowa), II, pp. 2-4 13-15, 29-32; 121 species.—1890. RIVES, W. C. (See Virginia.) —1898. RIVES, W. C. Summer Birds of the West Virginia Spruce Belt. Auk, XV, pp. 131-137; 46 species.—1909. BROOKS, E. A. West Virginia Birds in State Board of Agriculture. Report W. Va. State Board Agric., for 1908, pp. 3-62; 193 species.

WISCONSIN

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WYOMING

1872. HOLDEN, C. H. JR. Notes on the Birds of Wyoming and Colorado Territories, with additional memoranda by C. E. Aiken. Edited by T. M. Brewer. Proc. Bost. Soc. Nat. Hist., XV, pp. 193-210; 142 species.—1873. MERRIAM, C. H. (See Utah.)—1876. GRINNELL, G. B. (See Montana).—1879. WILLISTON, S. W. A List of Birds taken in Southern Yyoming, with supplementary notes by George B. Grinnell; Forest and stream, XII, pp. 306-307, 325-326, 365; 109 species.—1902. KNIGHT, W. C. The Birds of Wyoming. University of Wyoming. 8vo. 174 pp., 48 plls.; 288 species.—1902. BOND, F. List of Birds of Cheyenne and Vicinity. Bailey's 'Handbook of Birds of the Western United States,' pp. lxxiii; 184 species.—1907. PALMER, T. S. Birds of Yellowstone Park. Ann. Rep. Supt. of Yellowstone Park for 1907, pp. 15-23; 70 species.

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